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Edited by FAYETTE J. CLUTE

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A PORTRAIT
By LAWRENCE SIEBENECK

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY
FAYETTE J. CLUTE, Editor and Proprietor
CALL BUILDING SAN FRANCISCO CALIFORNIA

VOL. XXI JANUARY, 1914 No. 1

The Reception Room

By Lawrence Siebeneck

With Illustrations by the Author

EDITOR'S NOTE.—*This article, while independent and complete, is the first of a series that the author will contribute during the next few months. We believe they will be particularly helpful to that large portion of our readers who are engaged in portrait photography in the smaller towns and cities throughout the country, for the reason that the author is himself a successful worker in the same field. His suggestions, as a matter of course, are based on actual experience and are, for that simple reason, much more helpful than would be the abstract theorizing of a writer less intimately associated with the actual conditions that confront the average portrait photographer.*

Call it a shop, a studio, a gallery or what you will, it is invariably your reception room from which your customers will form their decision as to whether or not your studio merits what you claim for it in the way of their patronage. The reception room is the one in which you meet your customers and it is really the most important room in your studio. It is here that you either sell or do not sell your product. Such being the case, it should be so arranged that its influence will help in the selling of pictures. It need not be lavishly furnished, but an air of refinement should prevail. It should contain a plain yet substantial table, equipped with drawers for samples of your work. There should also be a few good chairs. If daylight be used to light the room, it should be somewhat subdued, as too strong a light is inclined to mar the soft effects of your portraits. Many reception rooms are lighted only by artificial light; a series of small, opalescent electric globes arranged upon the walls furnishing a pleasing form of lighting. A very effective method of lighting the reception room is one adopted by a large studio in Ohio. In this particular instance a number of eight-candlepower incandescent globes are arranged along the walls, and these are covered with shades of a green color that impart a green tone to the light. Daylight is practically excluded by curtains. The entire color scheme of such a room can be very effectively worked out by harmonizing the tone of the light with the color of the wall covering. Should such small lights fail to give the desired intensity for examining samples, an additional light or two could be placed near the pictures. These lights give a soft-colored appearance to the room. By following out this idea of lighting, a refined atmosphere is created and under such conditions it is much easier to consummate the sale of high-grade photographic portraits.

The method of displaying samples should have careful study and attention. Many studios display their samples on the walls, arranged in groups according to prices. Others keep them in boxes or drawers, while the display rack is still in use in many studios. Some scatter their sample prints over an area of several square feet, and others cannot dispense with the show-case method. The first method is probably the poorest. If photographs are arranged on the walls according to prices and one explains the prices of each, the customer, if at all addicted to economy, will quickly notice that the same cabinet sizes are in more than one group and select the cheaper style, even though she may have had in mind the payment of twice the amount. She sees no marked difference between the pictures and cannot realize how a little variation in the design of the card mount can be worth an additional two dollars or more a dozen. Keeping the samples in boxes or drawers permits one to explain the difference in quality, and also protects them from dirt and dust. When samples are so kept, the collection should contain a mounted set of children's poses, one of ladies, and another of men. Did you ever notice the dissatisfaction occasioned a lady customer who came in for a sitting when you tried to effect an order by showing her only samples of baby pictures and explaining to her that "such a mount will be eight dollars a dozen"? She generally keeps on looking until she finds some samples showing more mature subjects. If samples are left scattered over a table, they quickly become soiled and one will be compelled to make up a fresh assortment at frequent intervals. A very good means of display, one adopted by many large studios, is a counter, covered with some dark material, with the samples arranged thereon and then covered with plate glass. This last is easily fastened to the counter by a narrow moulding around the edge and it keeps the samples from becoming soiled by continuous handling. The glass gives added lustre to the pictures, and the counter, as such, proves a very useful accessory. Arranged in this manner, the samples are a pleasure to show. Of course the larger samples and folders are kept in boxes or drawers. I do not think it advisable to mark the price on the samples; so doing tending to cause the customers to regard the price as one's primary consideration. In showing samples, the impression should be given, as far as possible, that one's principal desire is to please the customer, induce her to order pictures that will be a pleasure to her friends, making the price quite secondary.

A physician's idea of a reception room seems to be an abode of literature. Nearly every doctor's or dentist's reception room contains a medical library and at least a few copies each of *Puck, Life, Argosy, Collier's, Saturday Evening Post* and *Ladies' Home Journal.* Some photographers are inclined to follow

A WINSOME LITTLE MAID

THE PET OF THE HOUSEHOLD

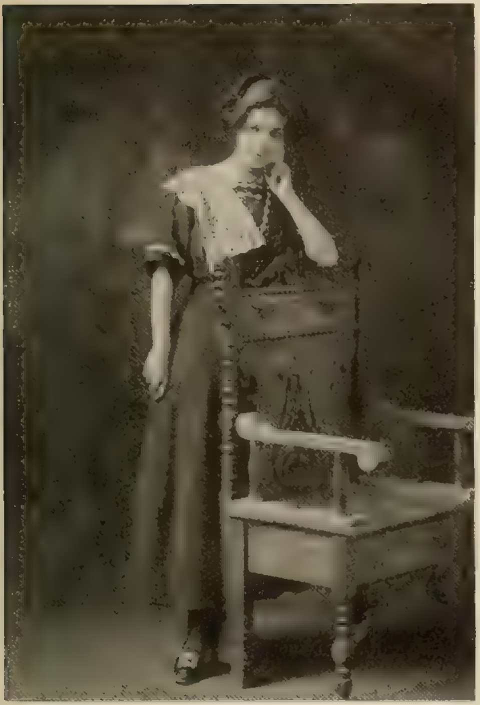
their method; but, as photographers do not deal with patients, I think their so doing is a mistake.

A receptionist will prove to be worth far more than her salary if she is at all adapted to the work. She is employed to sell photographs and must therefore be a saleswoman and know something about the goods she is selling. Explain to her the difference between your five and ten dollar pictures and why you charge more for your sepia-toned ones. If she is not conversant with photography, take her through your entire studio and explain the various processes. It will strengthen her selling argument and give her a practical knowledge that will enable her to answer the various questions that customers frequently ask, such as why you cannot change a portrait of a lady in a standing position to a sitting position without a resitting. If your receptionist is courteous, is a good saleswoman, and tries to please your customers, she is as necessary as your printer. But should she lack tact, she can make things very unpleasant. She can ask, as some will, "How much do you want to pay for pictures," standing meantime with that "Don't you know what you want?" air, while the customer decides the embarrassing question. Special efforts must be directed towards pleasing the customers, as the public expects treatment in the studio that it demands in no other place of business. Tact and patience are all-essential. Your receptionist can, in many instances, convince a dissatisfied customer of the good quality of the proofs and in this manner avoid a resitting. When a customer enters the studio, it is poor policy to show several different classes of work in the beginning. Always endeavor to display the higher grade samples first. By following this plan, your customer is often induced to pay a little more for photographs than was originally intended. If the price of those first shown is more than they will pay, one of course has his cheaper grades to fall back upon.

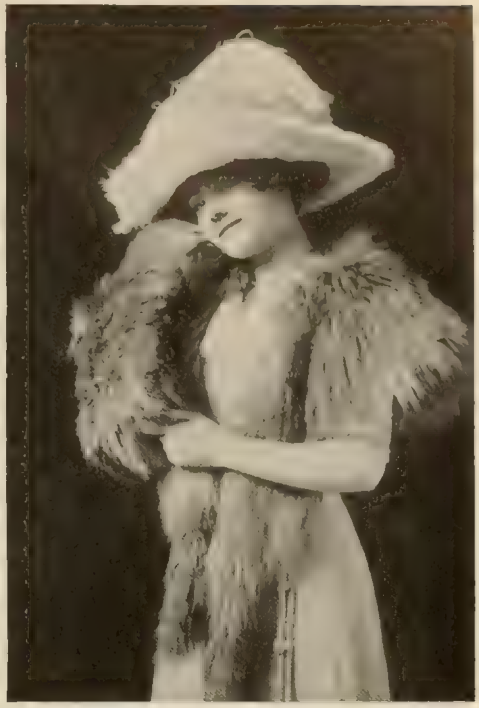
The work of registering one's orders is generally allotted to the receptionist and therefore I will describe an excellent form that is in use by some of our largest studios. After the customer has placed her order, she is given a form slip, herewith illustrated, with the request that it be handed to the operator, a duplicate stub being kept by the receptionist. The operator, taking the number from this slip, places it upon the slide of the plate holder, and later, when reloading the holder, transfers it to the plate. The slip is retained by the sitter and she is instructed to present it when calling for her pictures. The number on the negative is used throughout the entire process of finishing and is finally placed upon the package containing the pictures ready for delivery. The finished orders are rated consecutively according to these numbers, thus facilitating the finding of orders and avoiding the tedious work involved in rating by names.

No. ......
Name ......
Address
Design
When Finished ......
Paid ....
Due ....

Before we leave the reception room, let us try to get a view of things in their true perspective. I am reminded of a story which I think bears some relation to the subject of reception rooms. It concerns a preacher and his farewell sermon delivered in a New England village. The concluding remarks were as follows: "Brothers and sisters: During my long pastorate what changes have come over this little village! When, as a young man, I came here, 'twas a mere hamlet. There were the rushing streams and green fields and forest-clad mountains and a few honest farmer folk. Their wants were simple, their luxuries few. Where once was the brawling brook that held many a gamey trout, there is now an orderly stream that turns the wheels of industry. Where once was the lumbering stage coach, we now have the rush of the locomotive and the buzz of the trolley. Where once was the oil lamp upon the street corner, we now have the glare of the electric arc. Where the forest stood, the woodman's axe has been busy, and on the hillside slopes are now fertile farms. Our factories are hives of industry, our streets are alive with busy men. But, through all these years, one thing has remained unchanged, immutable as the granite rocks that form yonder mountains—my salary."



A QUIET, DIGNIFIED POSE



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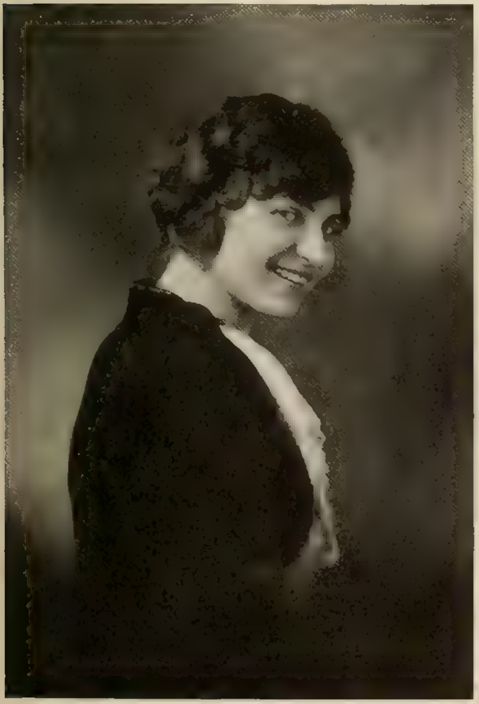
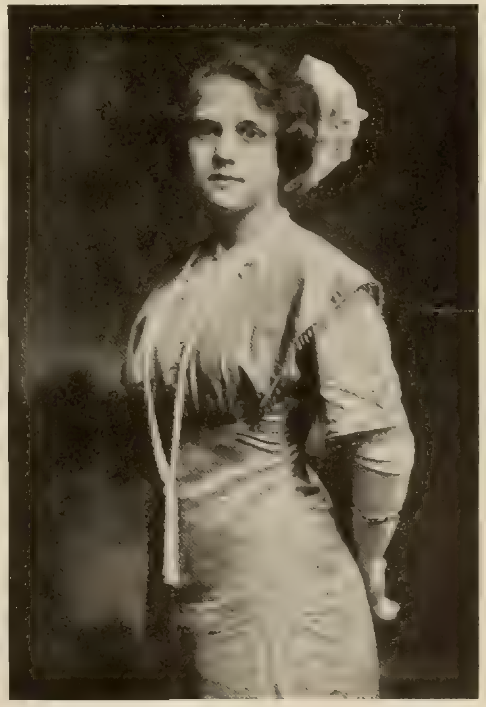


A COQUETTISH SMILE



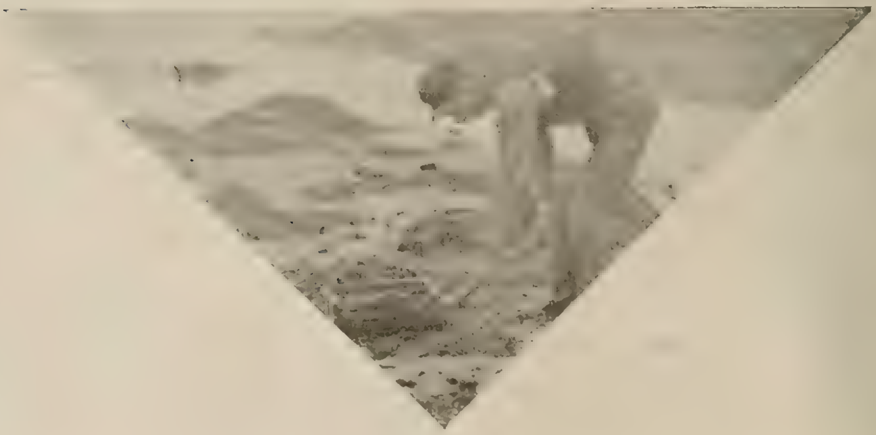
A PLEASING PORTRAIT

Brother photographers, we, too, have seen evolution and progress. In the past twenty-five years the tintype, the wet plate and albumen papers have been dispensed with. The old "professor" with the gray beard, or the "solemn old man" whose abode seemed the studio, has also passed out of existence. But there is one thing that has remained practically intact through all these years of progress. It is yet found in the majority of reception rooms, and occupies a very prominent position. Remember that placard you tacked up in your reception room some fifteen years ago when you first opened your studio, a card bearing the inscription, in capital letters as though you mistrusted your customers' honesty: "A Deposit is Required on all Orders—Positively no Credit to Any One"? Why not approach your customer in this manner: "How much would you care to pay down on your pictures?" The plan is quite as effective and much more modern than the older system. But for the sake of better business let us take down the old "relics," and do it today, as Kipling puts it—

"Lest we forget."

Thoroughness

We are none of us good architects as to be able to work habitually beneath our strength; and yet there is not a building that I know of lately raised, wherein it is not sufficiently evident that neither architect nor builder has done his best. It is the especial characteristic of modern work. All old work has been hard work. It may be the hard work of children, of barbarians, of rustics, but it is always their utmost. Ours has constantly the look of money's worth, of a stopping short wherever and whenever we can, of a lazy compliance with low conditions; never of a fair putting forth of our strength.—Ruskin.



The Hobby of a Western Banker

By J. H. Tatsch

With Illustrations by the Author

It is generally conceded that bankers are rather busy men; and, with currency reform, income tax and local affairs demanding attention, it would seem that little time could be found for personal pleasures and pursuits. Yet business activities of this kind in themselves demand that some marked recreation be indulged in to offset the effects following close application to confining and nerve-trying work. Stamp collecting, which I had followed as a hobby for a number of years, lacked the outdoor element, and I finally chose photography as the most enjoyable and gratifying occupation for my spare time away from the bank. In addition to its chief point of recommendation to indoor workers, namely, it being an incentive for trips afield, it makes a further appeal as being a pursuit closely allied to music and other arts, insomuch as it cannot be mastered in the few years allotted to us. New discoveries and methods are continually coming before us to stimulate our interest, which might otherwise flag were our work to take us too frequently over the same ground.

Beginning in 1908 with a No. 3 Folding Kodak, which was bought more as an accommodation to a friend than as an indication of photographic interest, a little photographic work was done and the camera disposed of; but in 1910 a stronger interest in photography developed through my enjoyment of the Saturday and Sunday outings then being taken by a group of fellow bankmen of the Old National Bank. Being thoroughly familiar with the roads and

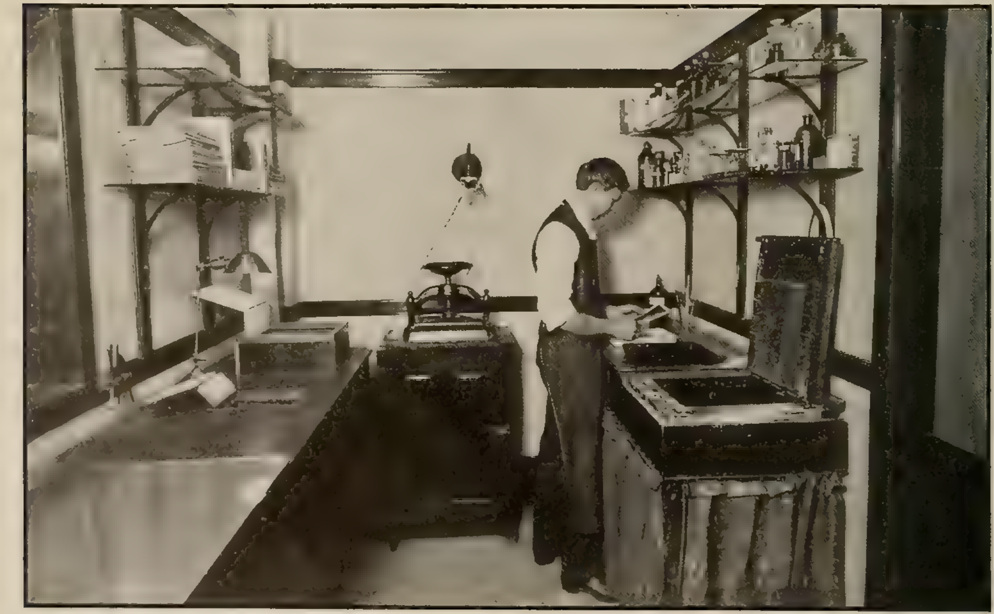
EN ROUTE TO SHASTA BUTTE—Eight miles in the distance

CAMPFIRE STORIES—Shasta Butte

BREAKFAST—Foot of Mt. Spokane

trails to the neighboring foothills of the Coeur d'Alene Mountains, the opportunity was given me to lead our party to many delightful spots for one-night camps; and, regretting with others that no photographic evidence was retained of these outings, I purchased a 3A Kodak, later replaced by a 3A Special completely equipped for films and plates.

Feeling the limitations imposed by the small working space of a poorly arranged basement dark-room, two other bankmen and myself joined forces and equipped a new one on the fifteenth floor of the bank building, obtaining the use of an unoccupied room 7x13½ feet in size. Owing to a previous change in the bank fixtures, we obtained some of the old mahogany counters without cost, and these were installed in the new dark-room. A supply of discarded plate glass was also accessible, and this was used to cover the working counters



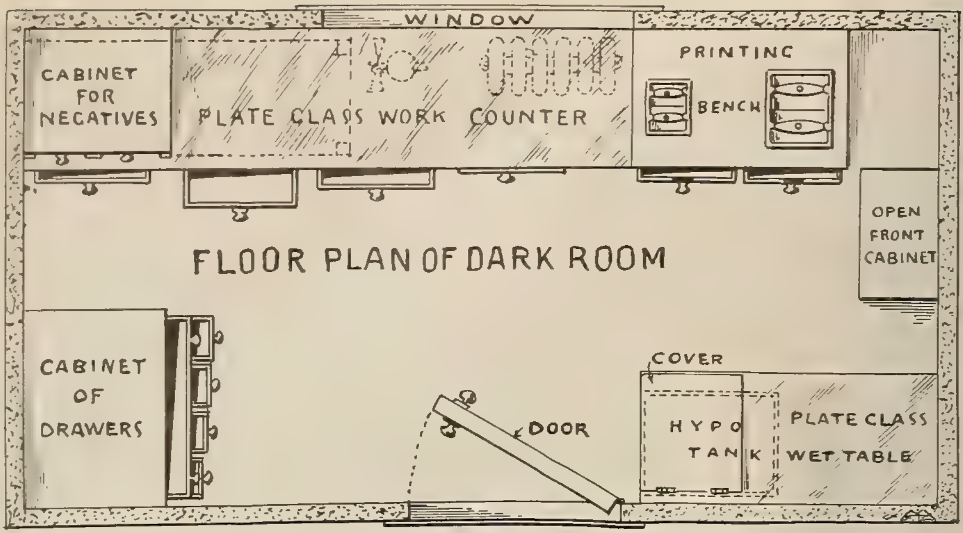
INTERIOR OF ONE END OF DARK-ROOM—The edge of door is shown at the right and edge of window opposite at the left. The end not shown contains a continuation of the plate glass covered counter; and opposite, at the door side, stands the cabinet containing five full-size drawers and thirty-two smaller ones. Below the counter shown in front of the window is situated the radiator that heats the room; to the left of this is an electric fan that, in operation, directs a blast of the warm air through and between the five trays of a print-drying rack that stands next to it and also below the counter.

and wet table, leaving bare only the space in which the printing frames were sunk. Plate glass was also used as shelving, and it can readily be seen how this covering and shelving lends itself to absolute cleanliness, a consideration of no small importance.

The counter used for printing has two frames, one 6½x8½, illuminated by four tungsten lamps that light automatically when the cover is closed; while the other, which is 10x12, is raised three inches above the counter to permit the eight lamps which illuminate it to stand upright, these lamps being wired to permit control in groups of four. The cover of this frame automatically operates a knife switch when closing, breaking the current when the cover is lifted. Diffusion of light is secured by means of a frosted glass, and "dodging" and vignetting can be done by placing cotton in the three-inch space between the frosted glass and the negative.

CHRYSANTHEMUMS—3 p. m., November; light very dull; L ortho plate; 10 seconds; Zeiss Protar, f-11, with 5 times screen.

The various paper stocks are kept in a cabinet adjoining the printing table, the top of this cabinet being of the right size and distance from the floor to hold a copying press. This is used for flattening prints and will be of service in making carbon transfers. The "wet table" has ample surface for developing trays at one end, while at the other the hypo tank is sunk into the counter to a depth of ten inches. This tank is twenty inches long and sixteen inches wide, and has an inner cover of plate glass which holds the moisture inside of the tank, giving no opportunity of warping the outer cover, which forms, when closed, part of the table top. This table is illuminated by two tungstens in a box grooved for ruby and orange glass, placed directly beneath a plate-glass



shelf. Two shelves above, five feet long and ten inches wide, provide a convenient place for chemicals and utensils.

The washing of plates and prints is done outside the room in a small closet a few feet down the corridor. Washing trays and tanks are connected with the faucet and drain off through the usual outlet.

Drying frames for prints are provided on a movable rack placed beneath the working counter. The rack contains five cheese-cloth frames, each 20x50 inches; and, having roller casters, can be wheeled to the washroom if necessary. In use, this rack is located under the left-hand end of the work between the wall at the end and a radiator in front of the window and also beneath the counter. The drying of prints can be hastened by drawing a denim curtain across the front of the space beneath the working counter and turning on an eighteen-inch electric fan, located between the rack and the radiator. This causes a gentle circulation of the hot air generated by the radiator, between the frames of the drying rack. Ordinarily, however, the prints are permitted to dry overnight.

Film negatives are filed in drawers built into the working counter, while plates are kept in a mahogany cabinet that occupies one end. This cabinet has four drawers of the right size to accommodate 6½x8½ plates. An eighteen-inch print trimmer adjoins it. Another cabinet, in another corner, containing five full-sized drawers and thirty-two small ones, provides for large mounted prints and the usual accumulation of small bottles, corks, nails, screws, tacks, electrical parts, brochures, etc.

A large window, fifty-four inches square, over the working counter, admits light for daytime operations. This can speedily be darkened by means of three panels, one of which carries two panes of orange glass. These last can, in turn, be easily darkened to permit of plate development.

My present equipment consists of the 3A Special Kodak furnished with a f-6.3 Zeiss Kodak anastigmat, and a 6½x8½ Empire State view camera,

A DREARY DAY—10:30 a. m., October; light very dull. L ortho plate; 1-5 second; Verito lens, f-7.

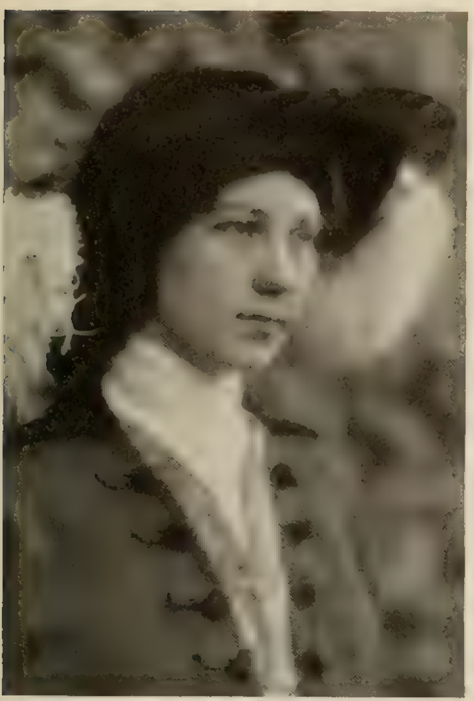
IN AUTUMN WOODS—3 p. m., November; light very dull; L ortho plate; 1-10 second; Verito lens, f-6.8.

equipped with a f-4 Verito diffused-focus lens in studio shutter. For wide-angle work, the Zeiss lens of the Kodak is used on the large camera, various ray filters also forming part of the equipment. I have no enlarging apparatus at the present time, but have placed this item on my list as the next important purchase.

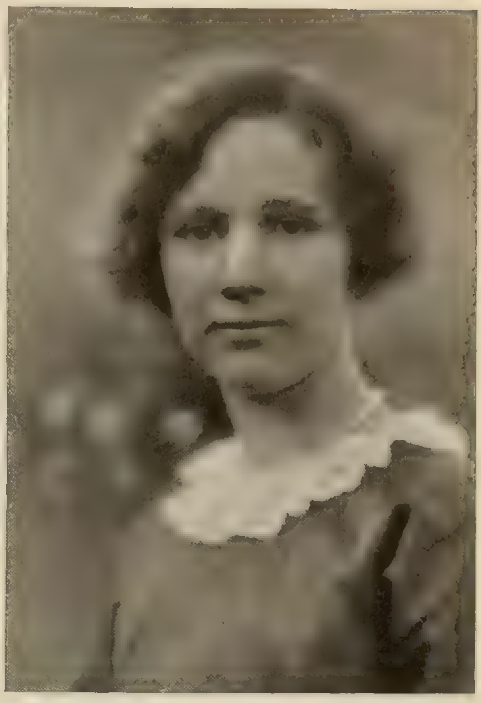
In progressing from the ordinary productions of the novice to the attempting of pictorial effects of the better class, the usual stage in which the amateur photographs practically everything of interest, was encountered, but soon passed, so far as personal interest was concerned. While many of the pictures still taken on our outing trips have no distinctive photographic merit, still sufficient excuse for their existence remains in the fact that they are true representations of actual occurrences. They are of value to the participants of the jaunts as a record of an enjoyable time, bringing to mind the trip and many incidents that would otherwise be forgotten. However, on such trips as these I usually manage to get a few negatives of pictorial worth, their value becoming more evident when enlarged. In making trips of several days' and sometimes weeks' duration, to the inland lakes and mountains, it is inconvenient to carry the large view camera and the necessary equipment. It is here that the 3A Kodak proves its worth. The usual procedure is to make a preliminary trip with the small camera and take note of the places of exceptional interest, returning to such points with the larger camera on another day. These trips in the wilder portions of the country, following poor trails while burdened with a heavy pack, are a real test of photographic interest. The many discomforts experienced call forth, to the highest degree, the traits of patience, endurance and ability to remain cheerful in spite of the mishaps that usually occur when radically departing from the ease and comforts of city life.

MORNING—10 a. m., November; dull light; L ortho plate; 1-10 second; Zeiss Protar, f-8.

REFLECTIONS—3 p. m., October; diffused; L ortho plate; 1-10 second; Verito lens, f-5.6.



MISS T.—Outdoor portrait; 3 p. m., October; light dull; L ortho plate; 1-10 second; Verito lens, f-5.6.



MISS D.—Outdoor portrait; 4 p. m., November; light very dull; L ortho plate; 1-5 second; Verito lens, f-5.6.

These trips sometimes have an element of adventure that makes them doubly interesting. A single instance will suffice for illustration. During the past summer a vacation of several weeks was spent in the Pend d'Oreille Forest Reserve. While there I one day spied an old and picturesque log cabin and applied to one of the occupants for permission to photograph it. This was granted by the owner, but one of the others, quite well under the influence of liquor, strenuously objected. Finding that no attention was paid to his verbal tirade, he started out to employ physical force as a means of gaining his point. While I was mentally debating whether to climb the rail fence or make a bee line for the gate with my equipment, for my assailant seemed to have quite a splendid physique, a plated metal disk that partly projected from my shirt pocket caught his attention and he immediately turned in his tracks and slunk across the road into the brush. I learned later that this portion of the reserve was "dry" territory and my belligerent friend evidently had a guilty conscience, otherwise he would not have mistaken a peaceably inclined photographer for a government official.

My camera activities in the city are confined to scenes in the parks ond portraits of my friends. While the former are quite simple, this cannot be said of the latter, for one's friends usually have pronounced ideas as to what constitutes a good portrait, seemingly being unable to understand that simplicity of dress rather than multiplicity of ornamentation is strongly to be desired. "Picture" hats do not make "picture" portraits, despite the general belief to

ROSES—2 p. m., November; light soft; L ortho plate; 4 seconds; Zeiss Protar, f-11

the contrary. It is hardly necessary to add that love of ornamentation is more of a feminine failing than a masculine one, although in fairness to the gentler sex it might be well to mention the fact that the sterner persuasion have certain idiosyncracies of their own when it comes to portraits.

As a whole, my work tends to the gradual elimination of the small and unimportant pictures and the giving of more attention to fewer and better exposures with the large camera, pictorial effects and individuality being striven for. In accounting for my reasons for following photography as earnestly as I have during the last year or two, I cannot do better than quote from a letter written to an old friend of mine, one who kindly took me to task for following my hobby so seriously: "Recreation does not mean idleness, but rather, a beneficial change from our usual occupation to a pursuit calling forth faculties and talents not expressed in our ordinary vocations. Photography, in my opinion, is a recreation that appeals to a man's threefold nature more strongly than any other hobby. First, the physical benefits to be gained from a jaunt down the river or through the foothills and mountains so accessible to Spokane, cannot be questioned; and the search for photographic possibilities furnishes the incentive needed to make the trip one of real benefit, as one should always have some definite object in view when starting out. Second, mental faculties are exercised in the compounding of formulas and in darkroom work, and again when afield in the judging of photographic possibility and in determining the proper exposure. Third, spiritual strength of no small value is received by those who experience and can appreciate the feeling of freedom that is gained through the

SUNSET—Lake Pend d'Oreille from Lakeview, Idaho

spending of a day in the open. Far removed from village and town, with only the trees and the hills as companions, we unconsciously throw off the limitations imposed by life in crowded communities, and become more keenly conscious of the supreme intelligence which pervades all Nature, returning to our work better equipped to face the routine of our daily existence. And when the cold winter nights come upon us, and with open albums we draw closer to the fire, we revisit the scenes of past pleasures and exploits and live over again, in quiet contemplation, the happy hours spent with boon companions in the distant woods and mountains."

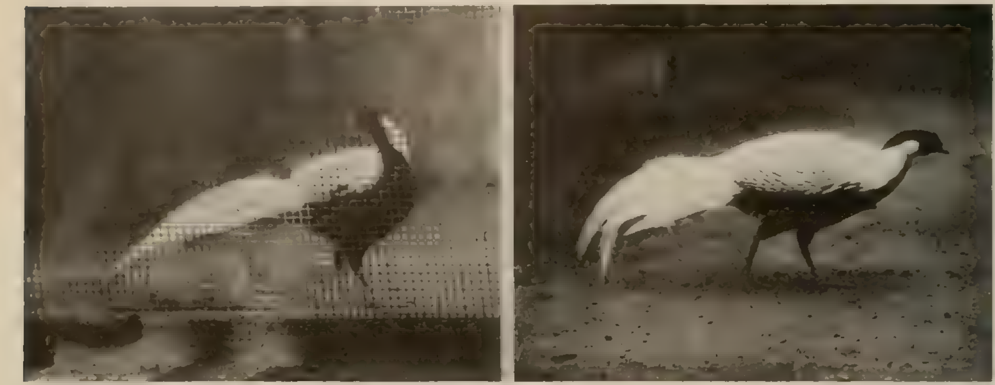
Photography In The Park

By W. J. MacKay

With Illustrations by the Author

Have you ever, when out taking pictures, found something that you wanted, just at the right distance, properly lighted and all just as you would like to have it, but with a screen or fence of wire netting in the way? That was, until I learned how to overcome the difficulty, my fix when out at Golden Gate Park, where I have spent a number of my holidays taking pictures of the birds and animals that it is hardly probable I will ever have a chance to see in their native haunts. Many of the animals within fenced enclosures I have succeeded in photographing by exercising considerable patience and making frequent visits; and, quite often, I have wished for an extra hand or two to enable me to more easily hang on to a fence, point my camera between the wires at the top in an effort to focus, and make an exposure at the proper moment. But coming to birds and other creatures that were within cages instead of fences, I felt that I would never be able to photograph them properly.

One day, while looking at one of the cheerfully colored and very sociable pheasants confined in the aviary, I tried focusing the bird through my camera (a Hall Mirror Reflex with a good Cooke lens), and noticed that at certain distances the intervening netting did not appear on my ground glass. It then occurred to me that, in my experience with a stereopticon, I had found that a hand passed just in front of the objective did not throw an image across the picture; but, further from the lens, did so. This was enough for a suggestion; why not experiment? Stepping close to the netting, I beguiled the pheasant with some peanuts, focused him sharply on the ground glass, and pressed the button. Returning to my dark-room, I hastened to develop the plate, and, to my delight, found I had bagged my bird as successfully as if he had been in the open.



CAMERA TOO FAR FROM WIRE NETTING   CAMERA HELD CLOSE TO WIRE NETTING

Since then I have taken many such pictures through close wire netting and through net fences of coarser mesh, disregarding the netting entirely except to get as close to it as possible. The camera has always ignored the netting more completely than one would suppose possible.

The two pictures I submit herewith show the same bird, both taken through the same half-inch netting, and with the same camera, the only difference being in the distance at which the camera was held. It will be found impossible to find any signs of the wires in the picture taken with the netting close to the camera. Others before me have probably made this same discovery; but, as I have never seen it chronicled in any publication, offer it to those who, like myself, have believed this netting a disagreeable obstacle to desired photographs.

As a man magnifies the meaning of life, as individualism expands to altruism, as national grows to universal, so do the ideals of an art change. And today that art which permits within its precincts not only the artist but also the honest artisan, will grow as surely and strongly as the people in which it takes root.—Geraldine Lermit.

The Transatlantic Journey of a Film

By George D. Jopson

With Illustrations by Miss Kate Smith

When the reader of photographic literature stumbles upon a reference to the care necessary with sensitive photographic material, especially plates and films, during an ocean voyage, the idea is impressed upon the mind that if these be not sealed air-tight and kept in the dryest place possible it will deteriorate, owing to a theory that salt-water air has very disastrous effect upon such material. To determine the feasibility of that argument the writer took into his confidence a well-known worker, one who is a serious student, a good reliable technician and a lover of art, Miss Kate Smith of England. Miss Smith commands much attention, especially as an exponent or idolizer of figure studies in the open air. She has taken a number of prizes, her first in 1903. She exhibits each year in the "Royal" and the "Salon."

"A RING, A RING OF ROSES"

A half dozen six-exposure rolls of 3¼x5½ Vulcan Film were merely wrapped in paper, no precaution whatever taken to protect them from atmospheric influences, and these were mailed to Miss Smith, with the request that, after being exposed, they be returned in the same manner, giving salt air every possible opportunity to perform its deadly work. These instructions were carried out; and, in due time the exposed film reached my hands. Upon development, lo and behold, six negatives, perfect in quality, resulted; just as if the

"LITTLE MISS MUFFET
SAT ON A TUFFET,
EATING CURDS AND WHEY"—

"THERE CAME A GREAT SPIDER
AND SAT DOWN BESIDE HER
AND FRIGHTENED MISS MUFFET AWAY

film had been purchased fresh from the dealer, taken afield, exposed, brought back and developed. While Miss Smith is ordinarily a careful and serious worker, she did, upon this occasion, break away from her usual style. The exposures were made under various conditions; bright days, dull days, and days of lowering skies; perfect time, over-time, under-time, any kind of a day and any kind of an exposure.

The method employed in developing the films upon their return to me was the Eastman Film Tank with the following developer:

No. 1:	Water	16 ounces
	Metabisulphite of potassium	70 grains
	Pyro	1 ounce
	Bromide of potassium	8 grains
No. 2:	Sulphite of soda hydrometer test	60 degrees
No. 3:	Carbonate of soda hydrometer test	40 degrees

To use, take forty ounces of water and add one and one-half ounces of Nos. 1, 2 and 3 at a temperature of sixty-five degrees.

Now that the technical side is disposed of, we will review the pictures selected to illustrate this article. No faking, doctoring, trimming or anything has been resorted to in order to assist in the rendering of an artistic conception.

as that would have destroyed their value as a record of this experiment. The pictures selected represent the range of exposures and also show how well the films maintained their quality after a double ocean voyage. "A Ring, a Ring of Roses" portrays a scene full of action, a pastime that causes us to hark back to our own younger days. It was caught at a happy moment when the children's whole souls were in their play, all unconscious of the camera nearby. The writer was strongly tempted to work out that white patch near the upper right-hand corner, but so doing would invalidate the experiment for the reader. The timing of the exposure was perfect and the mellow bright light is shown by the delicate cast shadows. The "Little Miss Muffet" pictures, a reminder of that favorite nursery rhyme, were taken on an overcast day. The exposure was full, yet not enough to destroy the detail of the drapery. The film of "Where Sunlight Plays" was selected for printing on account of the delicate drapery effects and correct exposure. Full detail is preserved in both the brightest lights and the darkest shadows, and the contour of the form is well rendered through the gauzy drapery. "The Snake Charmer" is from a flat, very much overtimed negative; so much so that the hardest emulsion paper that could be obtained was used in making the print. "Nature's Mirror" is an atmospheric impression and a reflection study in which all detail is delicately preserved. There is a very pleasant version of a part of the scene in the reflection, while the various planes, despite the atmospheric effect, take their proper positions quite pleasingly and without abruptness, one behind the other, suggesting space and distance. The fact of this statement is more accentuated in an enlargement of about six diameters.

NATURE'S MIRROR

The adage, "An ounce of prevention is worth a pound of cure," is certainly

WHERE SUNLIGHT PLAYS

THE SNAKE CHARMER

applicable in photography. This story of the ocean trip of the six rolls of film is not offered to encourage carelessness. It is always advisable to take every precaution to protect films and plates as much as possible under all conditions. My real object is to encourage the tourist to take his camera with him, and in addition, a bountiful supply of films; to use them and to bring them home to be developed, either by himself or by his finisher, who will do the work conscientiously.

And if one's camera is used consistently, successful results will be brought home. A sensitive film or plate has its limitations. It is entirely out of the question to expect results that are uniform if one employs the same shutter speed at various times of the day or on both cloudy and bright days. While these films were intentionally exposed under varying light and atmospheric conditions, with shutter set at various speeds, it was done to demonstrate to what extent a film could be abused and yet give good results, not to encourage others to intentionally go and do likewise.

A final injunction, and that is: Do your own developing if possible. If you can afford an ocean voyage, you certainly can afford a film tank. The tank eliminates all trouble and provides the only scientific means of doing one's developing. Development is carried on in an air-tight chamber which retains one temperature to the finish and prevents oxidization, thereby preserving the full strength of the developer up to the last stages, saving the delicate gradations and bringing out everything there is in the exposure. And by all means use pyro. Do not be led astray by the contention that the newer developers, the by-products of coal-tar, give a better-looking negative. It is the result in the prints that counts the most. While pyro may not make as pretty a negative as some of the coal-tar developers, it will do better, it will give the quality in the print. The gray, colorless images that result from developing with some of the coal-tar products are less dense than they look, and, therefore, one's negatives have to be developed beyond a point where they appear to have a full scale of gradation. The result is that this longer development blocks up the high lights and gradually cuts down the gradation, with the final result that the print does not reproduce all that was originally seen in the object photographed.

In conclusion, the writer desires to express his sincere gratitude to Miss Smith for so willingly giving her services in making this article possible, and he feels confident that all interested readers will join with him in so doing.

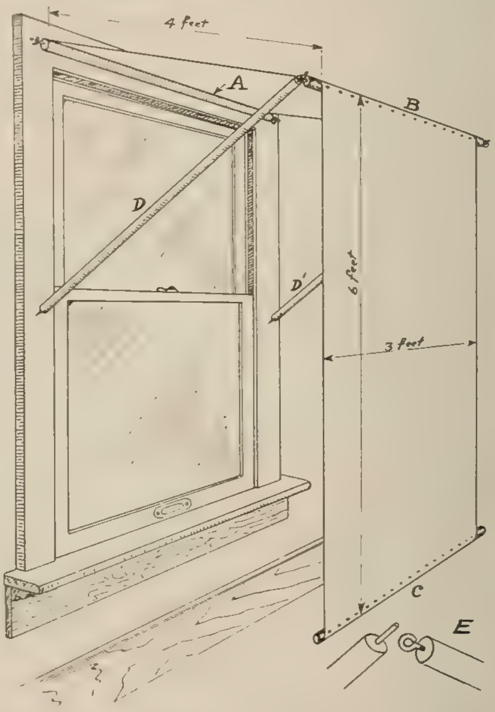
The Need of Study

"A self-taught painter is taught by a very ignorant person." So said Constable. One wonders what he would have said about the self-taught, self-styled photographic "artist." One of the most curious things is the widely prevailing notion that, with respect to art and religion, any one can give a useful opinion without previous study. While these two subjects are perhaps the two which demand the greatest study, who of us has not heard some one say, "I am not an artist, and know nothing about art, but I can tell a good picture directly I see it"? What should we think of one who said, "I know nothing about navigation or shipbuilding, but I can tell whether a vessel is properly constructed directly I see it"? Until one has learnt how little one knows of a subject, the foundation of knowledge has not begun.—*The Amateur Photographer.*

Portable Skylight for Home Portraiture

By J. C. F. Priest

The sketch herewith should explain the construction so that practically no description is required. The stick marked A is three feet long, with a two-inch wire nail driven into each end. Stick B is three feet long, with a screw-eye in each end. This is shown at E in lower right corner of the sketch. Stick C is also three feet long. The two pieces, one of which is marked D and the other not shown, are three feet four inches long, with a nail, with its head filed off, driven in each end. The nails in one end of these two fit into the screw-eyes in B, while the nails in the other ends rest against the window casing and hold the top of the canopy at any angle desired.



The three sticks are connected together with a sheet of muslin that is three and one-half feet long, tacked to each, the stick marked B being about four feet from one end and six from the other. A screw-eye and screw-hook placed in the casing at the top of the window receive the nails in the end of stick A, as shown. The sticks can be either round or square and should have a diameter of about one inch. When the skylight is in place, the lower part of the window should be covered with a piece of cheese cloth, or something more opaque if thought necessary, in order to either diffuse the light or to cut it off more or less entirely. A piece of slate-colored muslin hanging over the back makes a good background.

To sum up, the material necessary is as follows: Three and one-half yards of bleached muslin, one yard wide; one yard of cheese cloth; three pieces of wood, three feet long, one inch square; two pieces, three feet four inches long, that can be a little less in diameter; three screw-eyes and one hook; six two-inch wire nails and a few tacks.

This skylight can be put up or taken down almost instantly; and, as it can be rolled up into a very small package, it takes up but little room and is quite portable should one wish to take it to another room or even another house. It will be found to facilitate the securing of pleasing lighting in portrait work to a degree almost unbelievable by those who have before secured only the usual harsh effects resulting from window portraiture attempted without the assistance of a reflector at the side. With this canopy the lighting is such that roundness and good modeling are secured without any difficulty other than the selection of a window on which the sun does not shine. A north window, or an east one in the afternoon, is always the best.

Focusing Glass for Reflex Camera

By W. W. King

Many users of the reflex type of cameras experience great difficulty in seeing if the image of the object to be photographed is sharp on the ground glass. This inability to see clearly is ofttimes the cause of "fuzzy" pictures when absolute sharpness is most desired. A simple device that will prove a great aid in sharp focusing can be constructed out of a common magnifying glass and a coil spring made from black steel spring wire.

The lens used is of the ordinary magnifying glass variety, mounted in a black rubber setting, which can be purchased for about seventy-five cents. Figure 1 shows the form of the magnifying glass as it is when purchased; the dotted lines show how the rim has to be cut away. Figure 2 shows how the rim is grooved to receive the upper coil of the spring, and Figure 3 shows the coil spring attached to the magnifier. The coil spring must be made so that when the glass is raised to position it will focus the image on the ground glass perfectly with the eye in position at the hood. The hood of the camera will

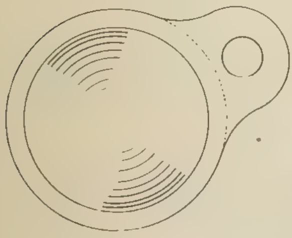


FIG. 1

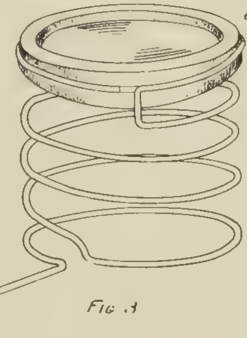


FIG. 3

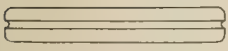
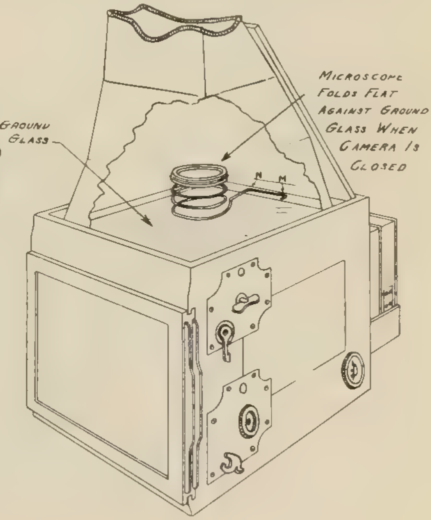


FIG. 2


GROUND GLASS
MICROSCOPE FOLDS FLAT AGAINST GROUND GLASS WHEN CAMERA IS CLOSED
N
M
FIG. 4

have to be removed to attach the device in position. The lower end of the spring is bent as shown in Figure 3, or to accommodate the camera construction, and is fastened, at points M and N, with round-headed screws or staples to the wooden part of the camera frame.

Figure 4 shows the attachment in place in the camera. As the camera is closed, the device collapses and lies flat against the ground glass; and, as the camera is opened, it springs into position, allowing a perfect focus to be readily attained.

In selecting the glass, choose one with a focus of about two or two and one-quarter inches, and, to reduce the vibrating tendency to a minimum, have the spring wire quite heavy, with as few coils in the spring as possible.

What Is a Good Picture?

The subject must be well imagined, and, if possible, improved in the painter's hand; he must think well as an historian, poet, or philosopher, and more especially as a painter, in making a wise use of all the advantages of his art, and in finding expedients to supply its defects.

The expression must be proper to the subject and the characters of the persons; it must be strong, so that the dumb show may be perfectly and readily understood; every part of the picture must contribute to this end—colors, animals, draperies and especially the attitudes of the figures.

There must be one principal light, and this and all the subordinate ones, with the shadows and reposes, must make one entire and harmonious mass; while the several parts must be well connected and contrasted, so as to make the whole as grateful to the eye as a good piece of music to the ear.

The drawing must be just; nothing must be out of place or ill-proportioned; and the proportions should vary according to the characters of the persons drawn.

The coloring, whether gay or somber, must be natural, and such as delights the eye, in shadows as well as in lights and middle tints; and the colors, whether they are laid on thick or finely wrought, must appear to have been applied by a light and accurate hand.—The Graphic Arts.

Sensitizer for Carbon Tissue

By V. A. Ulrich

Sensitizing carbon tissue according to the formula given in the excellent article on Carbon Printing, by my friend Mr. Williams, in a recent number of CAMERA CRAFT, has the disadvantage that the solution will keep only for a week or two before turning brown and therefore does not keep as a stock solution. My own method of sensitizing has the advantage of solutions that keep perfectly, making them more convenient for occasional use.

As it is quite desirable to vary the strength of the bichromate according to the contrast or lack thereof in the negative to be used, and to a lesser extent in accordance with the season, I call my method of working the varied per cent system. The weaker solutions are employed when it is desired to secure contrasts from thin negatives and the stronger solutions are employed to obtain soft prints from negatives that are somewhat hard. I also use the weaker solutions for sensitizing during summer months and increase the strength for winter months.

My plan calls for a saturated stock solution of potassium bichromate, which is practically a ten per cent solution. The sensitizing bath is mixed for use by adding water equal to from four to eight times the bulk of the stock solution. Of course, adding four times the bulk of water will give a two and one-half per cent solution; five times, a two per cent; six times, a one and two-thirds per cent; seven times, a one and three sevenths per cent; while eight times gives a one and one-fourth per cent solution. These are the strengths generally employed.

This diluted bichromate solution is placed in a white tray and just enough ammonia added to turn the orange red color to a lemon yellow. One can, if he wishes, determine when just enough ammonia has been added by testing with red litmus paper and ceasing to add it as the red of the paper turns blue slowly. The solution should then be filtered, returned to the tray, and the tissue left therein from one to two minutes or until entirely limp. I prepare, in this way, about twelve ounces of solution for my 7x9 and about twenty ounces for my 10x12 tray, and takes but the few minutes required for filtering to be ready for sensitizing.

The ammonia should be added slowly while stirring and a deep white dish like a round breakfast bowl is better than a tray, as it allows a greater depth of solution and the change of color is more easily observed.

I do the very best I know how; the very best I can; and I mean to keep doing so until the end. If the end brings me out all right, what is said against me won't amount to anything. If the end brings me out wrong, ten angels swearing I was right would make no difference.—Abraham Lincoln.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—The Editor.

TO MAKE GROUND GLASS: Ground glass can be easily made by rubbing together, with a circular motion, two pieces of glass between which has been sprinkled some emery powder moistened with water. Renew the powder and water as required. Place the piece to be ground on a bench and drive some small brads at the edges to keep it from sliding while grinding. A little effort and one will have two pieces of good ground glass when the operation is complete.—George C. Lynn, California.

USING A TANK: If one is using a plate tank, and I would advise all my readers to get one, he should avoid using it for fixing. After one's plates are developed, they should not be fixed in the tank. Despite the manufacturers' claims that fixing can be done in it, the acid in the fixing bath will gradually corrode the metal and one's plates will become affected; they will lose clearness. A plan I have found very good is to enamel well the plate rack; and, after developing my plates in the tank, transfer them into a fixing box. The plates need not be taken out of the rack, as it, being enameled, will not be affected by the acid in the bath. When the plates are fixed, the rack containing them can be put back in the tank and a thorough washing given.—A. W. P., Missouri.

A GOOD CONTRAST DEVELOPER: I wish to give the other readers of Camera Craft a formula of my own that I have found most satisfactory for developing plates and lantern-slides when some little contrast is desired:

No. 1:	Water	10 ounces
	Hydroquinone	25 grains
	Sulphite of soda	½ ounce
No. 2:	Water	10 ounces
	Carbonate of soda	½ ounce

Use equal parts and add several drops of ten per cent solution of bromide of potassium.—C. F. Hancock, Florida.

AN ENLARGING HELP: The best thing I have done lately in the way of improving my photographic equipment was to clean off the white paper which I had pasted on my bromide enlarging easel as a focusing surface; and, after truing up the surface and sand-papering it smooth, give it two coats of white paint and a final coat of white enamel. This gives a beautifully smooth, glossy surface, upon which focusing is easy, and one which can be easily renewed when discolored. It is far superior to a paper surface. A small tin box nailed to the back of the easel holds a handful of big iron tacks, each one with its point filed to needle sharpness. These are the best things I have found for fastening the paper to the easel during exposure. One at each corner and one midway of each side will hold the paper flat and in focus.—C. M. Whitney, N. Y.

HOME-MADE RUBY GLASS: I have experienced difficulty in securing a really "safe" ruby glass, even when trying various supply stores. The glass furnished by all allowed somewhat foggy negatives on even the non-color sensitive plates. An old magazine finally helped me out. Should any reader find himself in the same difficulty, the following procedure, I believe, will give him what his heart yearns for. Make up two solutions, the first by dissolving forty-five grains of methyl violet in sixteen ounces of water, and the second by dissolving ninety grains of tartrazin in another sixteen ounces of water. Fix two unexposed plates, and, after washing them well, soak one in each of the above solutions for twenty minutes. Wash lightly, and dry. Place both together, film to film, and bind. A perfect ruby glass should be the result.—Paulus W. Weber, Wisconsin.

TRIMMING PRINTS: I have discovered that a draughtsman's celluloid triangle makes a very good straight-edge and trimming guide combined. The method of using is as follows: Place the edge of triangle along the edge of print where the first cut is wanted and adjust it so that it shows the proper margin (I generally make my prints under mask so as to show a small white margin after trimming), place print and triangle down on something like the edge of a table, and so that the edge of the triangle extends over the edge of table or support about an inch, and make the cut with a large pair of shears. Those with bent handles are the best. For the next and following cuts, adjust as before, only in addition place the other edge of the right angle of the triangle even with the last cut made. Follow around the print this way and the result is a photograph with perfect right angles and straight edges. The reason for using a celluloid triangle is that, being transparent, the edges and margins of the print may be seen through it while adjusting.—W. H. Rhodes, California.

THOSE CURLED PRINTS: John has been in the habit of drying his small prints face up on newspapers, but they always warped inward and could be smoothed and flattened only by rolling them up in an old magazine and leaving overnight. As an improvement upon this rather primitive method of flattening the dried prints, he took an old shade-roller, sawed off about ten inches of the solid wooden end and cut the shade material attached thereto the same width. Starting at the wooden roller, he laid the prints down carefully, slightly overlapping each other, gradually rolling up the shade as he went along. The prints left in this roller for several hours were found to flatten out quite nicely and easily by afterwards simply placing them under a heavy book for another period of a few hours. No doubt wet prints can be placed in a roll of this kind if some absorbent material is employed instead of the rather hard material of which the shade is made; also one might, by using a roller of somewhat larger diameter, adapting the size to the size of the prints to be straightened, give the prints just enough curvature to make them come practically straight when removed therefrom.—W. C. M., New Jersey.

TIMING TANK DEVELOPMENT: In looking over some of my old CAMERA CRAFTS last evening, I noticed in the November, 1912, number a short article by Professor John Fulton on Timing Tank Development. The reader is advised to buy a cheap alarm clock, take out the glass, drill a hole in it, and fit another independent hand that can be set to the time development is complete. Now why go to all that trouble, and the risk of breaking the glass, when one can buy a cheap alarm clock with the alarm hand working on the same spindle as the regular ones, long enough to reach the minute divisions of the dial. This long alarm hand is usually made of brass so that it is easily seen and need not be confused with the minute hand. This form of timing clock has still another advantage. If one's wife wishes him to hold the baby, chop wood, carry in coal, or any other of the things she usually wants done just when he is in a photographic spasm, he can just give the alarm key a few turns and then, just as the development time is up and the baby has dropped off to sleep, the bell will give a shriek, most likely followed by the baby doing likewise. He will know positively, if anywhere within three city blocks of the tank, that development is complete. Of course, this works almost as well should no baby be available or should the wife be away on a visit to mother's.—P. W. Tooth, California.

METOL POISONING: I was greatly interested in the item by C. R. Lowe of Nebraska, printed in the November CAMERA CRAFT, in which he described the remedy that relieved the metol poisoning of a friend. While I did not use the regular fixing bath to cure myself, I doctored along the same line. My remedy, which worked like a charm, is as follows:

Acetic acid, No. 8	1 ounce
Water	2 ounces
Sodium chloride (common salt)	1 tablespoonful

Use this four or five times a day for several minutes at a time, rubbing it well into the skin. It cured my hand in about three days.

A solution of acetic acid will at once stop the development of an overexposed plate that is coming up too rapidly, if the plate be put into it. Common salt is a restrainer and slows down the developer's action. I presume bromide would do as well as salt, or the acid alone might do the work. I find Dianol a satisfactory developer; simple to mix, giving fine, blue-black tones similar to Amidol, while it is a much better keeper. My only objection to it is its staining the finger nails.

I send this, hoping it may prove a boon to some other fellow amateur who cannot use metol; or, having used it, is a sufferer thereafter.—Alva May, California.

"Do it as well as it can be done today—and do it better tomorrow."

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

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More About Night Photography—A Correction

In the sixth line from the bottom of page 561 of our last issue, Mr. Smyth's good article is made to read: "adding from one to four ounces of a ten per cent solution of potassium bromide." This, obviously, should read drops instead of ounces. While the mistake is one that could hardly mislead anyone familiar with developing formulas, it is one that we regret and deplore, all the more on account of the care which we exercise in an effort to keep our pages free from mistakes.

A Good Resolution and the Result

This is not to be a lecture on the need of making good resolutions at this time of the year. For one reason, it is too late to be timely, and for another, we do not attach much importance to the making of good resolutions simply because it is the first of the year. But a recent visitor to our office related an experience that is well worth making the subject of a talk to our readers, we sincerely believe. This gentleman has owned a camera and used it at intervals during the past seven years. Despite this fact, his average of good prints during the sixth year was little if any higher than during the first six months. He awoke to this fact about a year ago; and, thinking it over very carefully, decided that such a state of affairs was all wrong and against all reason. Why had he not improved in his work as one would ordinarily do if engaged in any regular employment? Simply because he had not sought out the reason for his failures, but had gone right ahead and made more exposures. Then and there he resolved to find out the why and wherefore of every new failure and proceed with another exposure only after he was sure that the cause of such failure could be avoided completely in the future. Carrying out this resolve was really very trying at times. All photographic work was brought to a halt for several weeks at a time when he was particularly desirous of making some snap-shots on a trip, because he could not determine just why a certain exposure had refused to develop into a good negative. But patience and perseverance won. The hit or miss worker of a year ago is now the camera user that is sure of his ground. He no longer guesses at the exposure, thinks the focus may be right, and trusts to luck that development may result in a printable negative. He knows; knows what the correct exposure is before the bulb is pressed; knows that the focus is right, the stop the most suitable, and the subject worthy of the effort to portray it. He does not make a much greater number of exposures than he previously did, but the results are uniformly good and satisfactory.

And how easy it would be for almost any worker to follow the same plan!

There is nothing uncertain about photography; in fact, the entire process can be reduced to rule. With proper knowledge and reasonable care one should secure a good negative and follow it with a good print from every exposure made. Of course, one will sometimes be tempted to invite disappointment by attempting things just to see how far the rules can be disregarded, but photographic practice is so well systematized that at least the worker who is free to choose his own subjects should have no excuse for producing other than a perfect negative each time. The large proportion of faulty negatives and prints that are produced by so many amateurs is due entirely to a disregard of details that the same workers would hardly allow themselves to indulge in with any other undertaking. It is no unusual thing to find an amateur bemoaning the fact that certain exposures were either too long or too short to develop rightly, seemingly oblivious to the fact that he should at least know in which direction the fault lay. Let one try our visitor's plan of analyzing every failure before going further and he will find that it will be a most interesting and at the same time most profitable procedure, we feel quite sure.

Professor Lange Passes Away

Oscar V. Lange, known throughout the country as one of the most notable exponents of photographic art on the Pacific Coast, passed away at his home in Berkeley on the evening of Tuesday, December ninth, after an illness of about seven weeks. Professor Lange, as we all loved to call him as being more in keeping with his uniform kindly, cultured and gentlemanly demeanor, came to San Francisco twenty-eight years ago, when a young man of nineteen years. He early made a name for himself as an artist with the camera, flowers and landscapes being his favorite subjects. An exhibition of his pictures at the Mid-Winter Fair of 1893 brought his work to the notice of the public, and at following exhibitions he achieved no small measure of success. He did some excellent work at the Lick Observatory. Many societies throughout the country have enjoyed his fine illustrated lecture, "Through the University with a Camera," and the week of his death an exhibition of his work was held in the Architectural Department of the University. Professor Lange was one of the founders of the Holmes, afterwards the Berkeley City Library. He was deeply interested in Esperanto and influential in securing the Congress for this city in 1915. He was an honorary member of the California Camera Club and the Photographic Association of California, frequently favoring the members of these organizations with talks and demonstrations on both the practical and the artistic side of photography. Loved and respected by all who knew him, his passing is, to this wide circle, a sorrow that is both deep and sincere.

A New Policy

We are only too glad to give space to the statements made by the owners of the Temple of Childhood Concession of the coming Exposition, and regret, as we believe these gentlemen do, that the new plan was not the one originally adopted. The undertaking, being somewhat novel in scope and character, there was, quite naturally, little in the way of precedence to guard them against mistakes in formulating their first working plans.

The Temple of Childhood

In view of the publicity which has been given the Temple of Childhood Concession of the Panama-Pacific International Exposition and the methods under which it has been conducted; and, in view of the fact that much of this publicity has been distorted, the management desires to make the following statements and also publish the decisions of the advisory board at its meetings held in New York City, December twenty-eighth, twenty-ninth and thirtieth last.

The Temple of Childhood is owned by a corporation, viz.: The International Child Life Exhibit Company. It is an educational concession of the Panama-Pacific International Exposition, to be located on one of the finest sites in the main palace area of the Exposition grounds. It will be a building of beauty and dignity, conforming to the Travertine architectural design of the main exhibition palaces, and the estimated investment pertaining thereto will exceed two hundred and fifty thousand dollars. The architectural commission of the Exposition, of which the architect of the building, Louis C. Mullgardt, F. A. I. A., is one of the five members, have already passed the plans.

The one feature of the Temple of Childhood in which the photographic profession is interested is the decoration of the interior of the Temple with portraits of children. There are many other features; for instance, the owning company has the selling and exhibition privilege on a vast variety of goods manufactured for the use of children; it has the exclusive right to conduct baby and children's welfare contests; to illustrate child life by motion pictures, by lectures, etc. These are cited to show that the Temple of Childhood is not merely a photographic project, as many have been led to believe.

To take charge of the photographic work, an advisory board was appointed, consisting of B. J. Falk, of New York; G. W. Harris, of Washington; Henry H. Pierce, of Boston; Julius C. Strauss, of St. Louis; W. L. Koehne, of Chicago; Simon L. Stein, of Milwaukee; F. J. Feldman, of El Paso, and Elias Goldensky, of Philadelphia, all of whom are men ably fitted to perform their duties.

Being desirous of keeping this display upon as high a plane as possible, it was at first determined that one photographer should be appointed in each locality for this work, such photographer being held responsible for his individual territory. However, the general public having exhibited an unexpected degree of interest in the Temple of Childhood and the representation of children therein, an unfortunate and unexpected condition arose. Many photographers say their old and valued patrons are attracted to the studio of the photographer appointed to make the pictures of children for the Temple. Some of these, quite naturally displeased at finding themselves unable to make desired sittings for their patrons for the Temple, were led to making statements to their customers and the public that were derogatory to the Temple of Childhood and to the Panama-Pacific International Exposition, but these attacks have mainly aroused and increased the public interest to an extent that the management has been inundated with requests from parents desiring representation of their children. However, as many instances of gross unfairness to photographers, not appointed to make sittings, having been brought to the attention of the board, it has determined, as hereinafter expressed, to give every photographer in good standing an equal chance to make sittings, enter the photographic contests, and retain the custom of his established patrons. The Temple of Childhood plan is, therefore, now open, with certain minor limitations, to all photographers. The object of the advisory board will be, as heretofore, to keep the display upon a dignified plane, and to present to the American public and the people of the world a photographic and art exhibit of child life, the equal of which has never before been seen.

Realizing the importance of the Temple plan to the photographic profession, the board has undertaken the elimination of all personal issues, and the following decisions were arrived at:

1. It was decided that no member of the board shall own stock in the company. The company agreed to pay the members of the board a salary for their services.

2. It was recommended that every photographer be permitted to make pictures for the Temple of Childhood, provided that said

photographer would have to proper bond to conform with the rules of the Exposition management and the new form of contract offered by the company. This contract, in itself, requires the payment of a preliminary fee of fifty dollars by photographers in cities of over [illegible] thousand, and twenty-five dollars in those in cities under that number of population. This fee covers the photographer's share of the expenses of the company in handling all letters and follow-up system matter sent to parents, certificates of representation for the children, bond fees and general publicity, and there is no limit to the number of letters the company will send out, without further charge, for each photographer. This payment is in the nature of a contribution by the photographer as his share of the publicity expense in his territory, publicity from which the photographer derives undoubted advertising value. In addition the photographer will pay one dollar for the display space given to each picture submitted by him. Through this plan, all unnecessary bookkeeping is eliminated.

3. The board also determined that the photographer would not be required to send an original negative, but could send his own print.

4. Instead of the former requirement as to weekly and monthly cash statements, the photographers will only be required to send a weekly verification of the full names and addresses of sittings made.

5. It was determined by the board to offer a series of medals and emblems for contests by the photographers. Every photographer making pictures for the Temple of Childhood will be permitted to select six specimens for entry in the special photographer's contest. The judges will be selected from portrait artists, sculptors, editors and photographers. The prizes are as follows: One diamond and gold medal, value five hundred dollars; two silver emblems, value two hundred dollars each; five gold medals, value one hundred dollars each, and twenty-five silver and one hundred special commemorative medals, the latter being especially distributed according to the size of the city in which the contestant's studio is located.

By this means the board feels that a general stimulus will be given to child portraiture, and that every photographer will be given an equal chance to share therein.

6. Many of the selected pictures will also be used for special display purposes in the main auditorium, and in the second and third galleries of the Temple. The special display will receive exceptional attention from the board and the architects, entering into the scheme of decoration, following the child classics or nursery rhymes. These special pictures will be selected from month to month, the final selection being made November first next. The method of treating the selected pictures, whether in oils, watercolor, or as photographic studies, will be at the expense of the company. The general method of display of the balance of the pictures will be in a specially designed metal frame attached to swinging screens.

The advisory board desires to state that they regard the Temple of Childhood plan as a great stimulus to the photographic business, and one that, if conducted upon a high plane, will reflect great credit upon the entire profession. Artistically, it should be a great success; commercially, the photographer will find it no small help in both his present and future business. All photographers will be communicated with as soon as possible; but, owing to the limited time, photographers desiring to start upon the new plan, especially where the old plan has not already been started, are requested to communicate at once with the nearest of the Temple of Childhood offices, which are located as follows: Marbridge Building, New York City; Fidelity Building, St. Louis, and Chronicle Building, San Francisco.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Depth and Scale of Image

The subject of depth is one that gives rise to perpetual controversy, the most curious feature being that the points in dispute today are precisely those that caused argument twenty years or more ago. The great stumbling block is the question as to what constitutes equality of depth in two different photographs of the same subject, made from the same standpoint but on different scales. Or, in other words, if one view is made with a four-inch lens and another with a sixteen-inch lens, what stops should be used in each case to give equal depth? Incidentally, it may be noted that this is a quite unnecessary question of no practical importance, but it leads to the consideration of the effect of enlarging upon depth, which is of some importance and worth study.

It is impossible to judge the subject fairly unless we look at it from the quantitative point of view, and therefore we must consider how depth is measured. The extent to which any plane of the subject is blurred when some other plane is in sharp focus can be quite easily calculated with the aid of the "depth constant," which is a quantity most often known as the "hyperfocal distance," because it also happens to be the distance on which we should focus to obtain the maximum depth possible. This constant forms the foundation of all calculations. The three factors that make it up are focal length, diameter of aperture, and the amount of permissible confusion, the constant always being equal to the focal length divided by the diameter of the circle of confusion and multiplied by the diameter of the stop. The whole is best expressed in the shape of a formula, if we let h equal the constant; f, the focal length; c, the confusion; and d, the diameter of the stop. The formula then takes this form:

$$h = \frac{f}{c} \cdot d.$$

If now we keep one of the factors, f, c, or d, constant, we can vary the other two so as not to affect the value of h. If we keep f constant, then h is unaffected so long as any variation in d is accompanied by a corresponding variation in c. That is to say, if with any particular lens we halve the stop, then all calculated depth distances remain the same, provided we consider the confusion to be halved also. This is an unimportant case, and it is the other two possible variations that give cause to the everlasting controversy.

The first of these two variations is this: Suppose we keep c constant, then any increase in f must be accompanied by a corresponding decrease in d to keep h constant. That is to say, if we change from a four-inch lens to an eight-inch lens, we must halve the aperture, use a half-inch aperture with the eight-inch lens if we had a one-inch aperture for the four-inch. Or, if we express the aperture in the ordinary way as a fraction of the focal length, we must make the f number of the aperture vary with the square of the focal length, so that f-4 with the four-inch lens becomes f-16 with the eight-inch. The second of the two important variations is as follows: Suppose the diameter of the aperture, or d, to remain constant, then to keep h constant any variation in f must be accompanied by a corresponding variation in c, which means that we must allow the confusion to vary with the focal length, or exactly with the scale of the image.

Now the great problem arises. With either variation the value of h remains the same and calculated depths are the same, so that in theory depth can be held to remain constant. But it may not appear to be so, and the question is which of these two conditions gives the best appearance of equal depth. Is it best to keep the confusion the same for all scales, or should we let the confusion vary proportionately with the scale? The second view has more reason, but some advocate one view and some the other, and the real cause of all the trouble is that neither side will admit, what should be the obvious fact, that much depends on circumstances. While it is often ridiculous to demand the same acute definition in a big image as in a small one, it is equally ridiculous to suppose that an enormous actual amount of blur in a very big image will escape notice as readily as the corresponding relatively equivalent amount in a small image.

We can now consider more in detail the consequences of keeping to the same diameter of aperture. If we consider the effects to be equivalent when the confusion varies with the focal length—or, what is exactly the same thing, with the scale—it follows that all enlargements from any one negative, whatever their scales may be, show equal depth. This is true in a measure, but not absolutely true in extreme cases, for we have to consider the manner in which the results are viewed. Suppose we have a small 6x4½-centimeter negative and enlarge it twenty diameters. The small negative being made with a three-inch lens at f-4.5, the enlargement will be equivalent to a direct print made with a sixty-inch lens at f-90, and if the maximum confusion in the small image is one two-hundredth inch, that in the large print will be one-tenth inch. If the big print is viewed at five feet, which is the proper distance, the blur of one-tenth inch will subtend the same angle as one two-hundredth inch viewed at three inches, and will appear to be proportionately equal; but we cannot view the small print at three inches. We must retreat to nine inches, at which distance the blur appears reduced to about one-third, wherefore the small print looks sharper than the big one, and appears to have more depth. We can make the two look alike by viewing the small print at nine inches, and the big one at fifteen feet, but no one will do this, or if any one does do it, the perspective will appear wrong. It follows, therefore, that the depth will not appear to be equal if we take too small a print for comparison. Pictures made with lenses of under eight inches focal length must be left out of consideration, and also we must be careful to view all pictures at their proper distances, to preserve the appearance of equal depth.

Just as the small print looks sharper if it is viewed too far off, so the big print will look less sharp and show less apparent depth if viewed too near, and it will probably be unsatisfactory in the eyes of a commercially minded customer who is looking out for sharp focus. Its depth is, however, probably greater than that which could be attained with a direct print made with a sixty-inch lens, simply because the latter could not be used with stop f-90 on account of the enormous exposure wanted. If a smaller stop had been used in the three-inch lens, then enlargements would give results showing an amount of depth quite unattainable with very long focus lenses, which fact it is rather important to remember when big images and great depth are both required.

On the other hand, when only slight depth is wanted, as in portraiture, a long-focus lens with a big aperture will give results quite impossible to obtain by enlargement from small negatives, simply because small lenses will not hold sufficiently big apertures. The effect produced with a twelve-inch lens at f-4 in the studio cannot be duplicated by enlargement from a small negative, for a three-inch lens would have to work at f-1 to produce the small negative suited to the purpose.

While the rule that depth may be considered to appear constant so long as the same diameter aperture is employed is a useful one to remember it is of no value unless we have a means of determining what diameter aperture we should use, and to do this we must either resort to tables or calculations, or, what is the usual way, rely on experience. The worker with a small camera should consider the matter not from the point of view of the lens with which he is working, but from that of the imaginary lens with which his enlargement may be considered to be made. For example, the quarter-plate worker who always enlarges two diameters should forget that he is using, say, a five-inch lens, and should consider all matters as they would be affected by a ten-inch lens. If his five-inch lens works at f-4.5, the results are equivalent to a ten-inch lens working at f-9, and all matters concerning depth must be considered from the point of view of that ten-inch lens. If he concludes that f-16 with a ten inch lens would be desirable, then he must use f-8 with the five-inch, but he cannot produce any result that would require a bigger aperture than f-9 with the ten-inch lens.

If we leave out the question of enlargement and apply this rule to the case of different lenses, then though it is theoretically true that an aperture of one fixed diameter will give the same depth with any lens, it is necessary to remember that the rule is limited in its practical application. We must leave out of consideration lenses under eight inches focal length, and also long-focus lenses of large aperture, such as are used in studio work.

It is now becoming generally recognized that it is absurd to demand equal definition in images of all sizes, and therefore the idea that the stop *f* number should vary with the square of the focal length is being dropped in favor of the one that the same size stop should be used. The limitations of this last system are, however, not so well appreciated, because it is not often put into practice, and rules and formulæ alike are generally disregarded in favor of actual trial. With long-focus lenses, matters are nearly always settled by trial on the focusing screen, and so depth is decided independently of all rules. If the matter were actually tested, it would probably be found that neither rule is observed in actual practice, a mean course being taken that splits the difference between the two results. As a matter of fact, however, long-focus lenses are seldom if ever used under the same conditions as short-focus ones. A more distant viewpoint is generally selected with the former, and so the conditions are completely altered. Nobody wants to compare direct results produced with different lenses, the chief matter of importance being the effect of enlargement on depth. In connection with this it is sometimes useful to know that enlargement or reduction to the same size will give exactly the same effect of depth provided all the originals were made with apertures of the same diameter. The most important practical conclusion is, however, the one we have before referred to. Namely, that if when exposing we consider the amount of enlargement that is to be given, we can then quite readily select the stop that will give the best final result, and in this way we can secure greater depth than is possible with a long-focus lens used direct. —*British Journal of Photography.*

The Transit of Wet Negatives

Harry Payne, writing in *The Amateur Photographer,* says: "I was recently staying in a small town in Ireland on holiday and had recourse to the dark-room of a local dealer for the filling of slides and the development of negatives. I am one of those 'serious' workers who like to know before leaving a vicinity, if possible, what the precise result of a day's 'bag' is in the shape of developed negatives. The dark-room in question was in every way an admirable one, but it frequently happened that the washing tanks and sink were fully occupied with work of the dealer's. Rather than leave the important washing and drying processes to the tender mercies of the busy dealer and his staff, I decided to remove the wet negatives to my apartments, where I could perform these operations personally.

"The question was, how this might best and most safely be effected. I may mention that I have three double dark slides only in use, so that each batch developed was six in number. My first expedient was to lay plate No. 1 film up (having shaken off as much moisture as possible) in an empty plate box. Then at each end on the extreme edge I laid a match with the head removed. Plate No. 2, film side down, was now gently dropped into position, the matches, of course, forming separating strips between the films. No. 3 plate was laid on No. 2, back to back, and the process repeated with the six plates. A loosely crumpled piece of paper was then laid on top, and the lid put on. I found this answered admirably so long as the box was carried horizontally and carefully, but one day a stumble caused the box to receive a violent shaking, and one or two of the negatives were badly marked in consequence. I then hit upon the following simple device, which answered admirably, and I believe that, with a little corrugated packing in addition, a box of wet negatives could be safely trusted to the post, though it is only fair to say I never tried this.

"The dodge consisted in making three little wire frames a trifle smaller than the outside dimensions of the plate. The copper-coated iron wire, about 18 standard wire gauge, obtainable at most ironmongers', will serve. It is not necessary to solder the joint, but this can be done if desired. In that case the front should be carefully filed so that it is the same thickness as the rest of the frame. A pair of wet negatives are taken and a frame inserted between the film slides, the whole being brought square together as one would a hand of cards. They are then carefully wrapped up in a piece of paper, care being taken to see that the 'pack' is not disturbed. Once the paper is tightly round them, they cannot shift, and may be placed in an empty plate box and carried in any position in the pocket with impunity. It should be borne in mind, however, that there is a limit to the time in which negatives will remain wet. If they are allowed to dry in the circumstances indicated, they may probably accumulate surface markings. Therefore remove the wet negatives from their packing at the earliest possible moment, and place to wash in plain water again. If this is done within a reasonable time, no harm will come to them."

N. B.—I have repeatedly taken wet negatives back with me from a vacation, chiefly because of the difficulty of dustless drying in a hotel bedroom. It is to be remembered that if negatives are kept wet for any length of time, and in summer that time is short, they will probably be attacked by bacteria and a fine crop of dark spots will appear in the prints. The plan I follow obviates this, and is simpler than that described above. I simply leave the negatives for five minutes in the wash basin in a ten per cent. solution of formaline, wrap them up in surgical lint wet with the same, and enclose the whole package in a piece of oilskin. They can be thus kept wet practically indefinitely.—H. D'A. P.

Bromides In Sheets

Recently a good deal of attention has been given by our correspondents to the printing of post cards in strips, or in sheets of six or more, but few people seem to realize the advantage of the same method for making prints in larger sizes. With a properly constructed printing cabinet, which may be of very simple design, six cabinets or full half-plates, or four whole-plates, may be easily managed upon one sheet. The saving of labor is great, and there is also the advantage of uniformity in depth of development, and also of toning, if this be practiced, while the risk of injury to individual prints is reduced to a minimum. A simple arrangement which we saw the other day consisted of a box containing an electric bulb. On the top of the box was a sheet of plate glass covered with a piece of linoleum the thickness of an average negative, a thin paper mask being fastened on this to cover the rough edges of the glass. A slip of wood was pinned down to lay the edge of the paper to, and drawing pins marked the distance for the shifts; a hinged pressure pad with a handle served to insure contact between paper and negative, and also to switch on the light. A noteworthy point was that a good yellow light was kept burning outside the box, so that the printer could see what he was doing as well as if using a single printing frame. This struck us as better than having a yellow light inside the printing chamber.—*British Journal of Photography.*

Graduated Light Filters Again

It is extraordinary how difficult it is to kill a myth. Various articles in the journals of many lands and advertisements in those of this country and England assure the guileless photographer how he may obtain clouds and landscape in correct gradation on one plate by the use of a graduated light filter. The article in question is a piece of glass or gelatine, yellow above and colorless below (or vice versa), supposed to filter out the blue rays of the sky without affecting the ground plane. The idea is absurd in theory and false in practice, as the experiments I made are reported in Camera Craft some months ago unquestionably show; and yet, photographic journals that ought to protect the novice allow the tyro to waste his money and time in attempting the impossible. I am led to make these remarks partly by noting a recrudescence of the matter in the journals and also by reading an article by Dr. Ad. Schäffer, of Munich, in a recent issue of the *Wiener Mittheilungen*, showing, as I have shown, that a graduated filter neither on the front nor the back of the lens, has any effect; but that such a screen next the plate is fully effective. I have, in a former article in these pages, described the making of such screens. Dr. Schäffer also tells us that a screen placed at a certain distance behind the lens, at a point beyond the divarcation of the rays passing to the top and bottom of the place, will have a relative efficiency. He gives a calculated table for the size of filter and minimum distance from back of lenses for lens of various foci and aperture, working on a 9x12-centimeter plate. By this I note that a one hundred and fifty millimeter lens working at f-5 would require a filter sixty-five millimeters in circumference at a distance of four millimeters behind the lens. The practical difficulties of such an arrangement are obvious. I hope shortly to offer a simple solution of the problem of graded skies.—H. D'A. P.

Border Negatives

A correspondent of the *British Journal of Photography* sends the following method of making the above:

A sheet of thin paper, such as tracing paper, or, better still, a fine bank post, is cut to the size desired, and the necessary drawing or writing done upon it with an ordinary pen, a good photographic opaque being used instead of ordinary ink. When this is dry, it is put into a printing frame with a plate-glass front and strong springs, and a negative made by contact printing upon sensitive albumenized paper. It must be printed very deeply, and will only require fixing, the yellowish brown thereby produced being more non-actinic than if a toning bath were used. This negative is then waxed or oiled to render it transparent, and used in the same way as the ready-made ones. A little sketch like the "remarque" of an etching may thus be easily added, and would add an exclusive touch to a print. Of course, such an effect can be obtained by double printing, but the new frame saves a good deal of work.

Copying Pencil Drawings

We have been interested recently in seeing some photographic reproductions of pencil drawings, and were shown some negatives which threw side-lights on the comparative ease with which work of this kind may be done now as compared with some years ago. In one case the original was a somewhat delicate pencil sketch on cream paper, and when the copying was done the worker was afraid the gray of the pencil and the cream of the paper would result in a very flat negative. He therefore used a process plate and developed it very fully, but on printing on bromide paper it was found that the negative was so strong that instead of a pencil effect the appearance of a pen drawing was suggested. A second negative was made and developed for a much shorter time, but even then a little reduction with ammonium persulphate was needed to bring the contrast sufficiently soft for the printing paper. The prints were made on a smooth cream crayon bromide paper, developed with rodinal on account of its tendency to give a somewhat grayer image, and were almost facsimile reproductions of the original. A score of years ago the copying of a pencil drawing was a matter presenting considerable difficulties. Where a soft negative is required to suggest the grayness of the pencil lines, the opaque portions are just opaque enough to prevent any tint being printed, and it is consequently necessary to see that the original is quite flat and free from any cockling or uneven lighting. A reflector will usually be needed even when the drawing has been stretched as taut as possible.—*British Journal of Photography.*

The Print Exhibit at the California Camera Club

We recently had an interesting lecture by Mr. Dowie on the subject of Japanese art, and a recent number of the *Amateur Photographer,* London, gives a very valuable critique of a London exhibition of Japanese color prints, showing their great value as models for the photographer. I append a few extracts. My reason is that in our local exhibit we found so many beautiful subjects disastrously treated. Perhaps nowhere was this more apparent than in the total ruin of many prints by incomprehensibly bad mounting. For example, the subtle gradation of flesh destroyed by the close proximity of a pure white mount; the vulgar use of gold frames where they stand in no relation to the tints of the picture, and so on. And lastly, I note some attempts to affect Japanese subjects; but it ought to be realized that what is wanted is not an imitation of Japanese subjects, which are not natural to our surroundings, but an acquirement of the knowledge and skill of Japanese artists in decorative effects, a sublimation of the best experience of the art world.

Mirrors for Focusing

The use of a small mirror as an aid to focusing when working in confined situations is not nearly so well known as it might be. It sometimes happens that the camera must be placed as far back in a building as possible, the ground glass almost against the wall, and there is then no chance of getting any direct view of the image on the screen. If there is room for the hand between the wall and the ground glass, it is an easy matter to focus if a small mirror is held in such a position that the image is reflected upwards or sideways to the eye. Indeed we have found it actually easier to focus in this way when working in dark interiors with a wide-angle lens, for the adjustment of the mirror to the proper angle is easier than the moving of the head under the focusing cloth to bring the eye into the line of the beam of light passing from the lens to and through the ground glass. Quite a small mirror is sufficient for this purpose, but the mirror may be used in conjunction with the studio camera, and then it needs to be somewhat larger than the focusing screen itself. When working with the camera quite near the floor, as in child portraiture, it is awkward to focus except by kneeling on the floor, but if a mirror is hinged to the lower edge of the focusing screen and is set at an angle of forty-five degrees, it will be found perfectly easy to focus by it, and there will be the added advantage that the picture will be seen right way up. A further use of the mirror in any form is for the examination of the interior of the camera. It is an easy matter to throw a beam of reflected light into the camera, much easier in fact than to turn the camera round and tip it up until light from the window can reach every corner in turn. And as compared with the use of, say, a small electric lamp, there is no dazzling source of illumination in front of the eyes, simply a portion of the interior brightly lighted.—*British Journal of Photography.*

N. B.: I have used this method for years in making photomicrographs, particularly in arranging the illumination. When the general focus and light are about correct, the last turn of the micrometer screw is best done directly on the ground glass by aid of a focusing glass. But the eye is spared much fatigue by the use of the mirror. I prefer a piece of mirror glass as large as the focusing screen.—H. D'A. P.

Influence of the Mount

Quoting from the *Amateur Photographer*: "Light and shade, light and dark, like such terms as large and small, long and short, hot and cold, etc., are relative terms. To grasp this notion firmly and clearly is the first step in picture-making. A scrap of gray paper laid on a piece of black paper seems to be much lighter than when laid on white paper. A dark mount may kill the subtleties of a light and delicately graded sky. A white mount may make a fairly light and luminous sky look ominously dark and near, and impart a top-heavy appearance to the picture. The lightness or darkness of everything that we see is affected by neighboring tones. It takes long and careful study to acquire the art of not seeing the effect of neighboring objects upon each other. Try the experiment of looking at a whitewashed ceiling, first through a tube of white and then a tube of black paper."

The F Value of the Eyes

(Letter in *Photography and Focus.*)

Sir: In a letter appearing in the last issue of *Photography*, mention is made of the interest attaching to the f- value at which the lens combination of the human eye works. With regard to this I beg to submit the following few facts.

In the first place, the size of the pupil, which corresponds to the diaphragm of the camera, is automatically adjusted to suit the light entering the eye, the aperture becoming smaller in bright light and larger in the dark. The average diameter of the human pupil in bright light has been found to be one and three-tenths millimeters, while in very dull light it is as much as eight and five-tenths millimeters.

It has been found that the average distance from the anterior surface of the eye to the surface upon which the image is formed is twenty-two and three-tenths millimeters.

Now the optical center of the lens combination has been calculated to be seven and three-tenths millimeter behind the anterior surface of the eye.

Thus, since these figures were calculated for an eye focused upon a distant object, the focal length of the lens will be twenty-two and eight-tenths millimeters, less seven and three-tenths millimeters, or fifteen and five-tenths millimeters.

It will therefore be seen that the lens combination of the eye works in bright light at approximately f-12, while in very dull light it works at approximately f-1.8, thus comparing favorably with the best modern lenses.

Of course the above figures are only the average of a large number of cases.

G. C. Nelson Younger.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Handling a Cracked Negative

If the glass only is cracked, it should be warmed and cemented, the glass side of the cracked negative in contact with the sound glass, to a cleaned negative glass of the same size, also warmed. Both are then immersed in a weak solution of hydrofluoric acid, about one drachm in eight ounces of water. The film of emulsion will soon start to leave the glass around the edges and a little coaxing with the finger or a soft stick will cause it to roll up towards the center and finally separate entirely. This film should then be removed to a tray of clean water and another sheet of glass that has been given a coating of gelatine slid in under it as it lies flattened out in the tray. This gelatine coating is prepared by soaking an ounce of gelatine in an ounce of water until it is swelled and then adding eleven more ounces of water and dissolving the gelatine by gentle heat. This coated glass is raised out of the tray with the film flat on its surface, air bubbles being worked out from beneath with a camel's-hair brush, and then racked away to dry.

Should one object to the use of the rather inconvenient hydrofluoric acid, the following method may be tried: Immerse the broken negative, attached to its sound glass support as before, in water and allow to soak for several hours or until the emulsion becomes thoroughly softened. Then place it for four minutes in a bath made by adding seven and one-half ounces of forty per cent formaldehyde solution to twenty-five ounces of water and adding to this one ounce of glycerine. Set up to dry without washing and finally apply a heavy coating of celluloid varnish, flowing it on as one would in varnishing a plate; but instead of setting up to dry, place it on a slab that has been accurately leveled to insure an even thickness of the film when dry. By cutting this film all around a little within the edge of the negative, it will generally be found quite easy to lift and strip from the glass by pulling gently upward at one corner. This coating of thick, heavy celluloid varnish furnishes the support for the negative film, rendering it unnecessary to remount the film on another piece of glass.

If the film of the negative as well as the glass be broken, the only plan is to attach the pieces to a clean piece of glass with Canada balsam in the same way as recommended above; and, using this as a negative, make a positive on another plate, retouch it as much as possible and then make from this last a new negative. As before, both the pieces of the broken negative and the new glass support should be warmed to insure the flowing of the Canada balsam over the entire surface so as to present as unmarked a condition to be copied as possible. Should it be possible, allowed the Canada balsam to also cement together the several pieces, removing any surplus that may ooze upon the film from between the cracks with a bit of rag dipped in alcohol, doing this before it becomes set.

Stains With Farmer's Reducer

A New York correspondent complains that reducing with the common ferricyanide and hypo reducer almost invariably results in stains being left on the negative, at least in his hands. We have never experienced this trouble, but remember reading, some years ago, that these stains only resulted when the negatives were reduced immediately after developing and fixing and before washing. This may be the case with our correspondent. While the fact that the reducer contains hypo would seem to indicate that the hypo left in the negative through neglecting to wash it would do no harm, it was pointed out in the article that I read that as the negative was full of developer when placed to fix and fixing might fail to remove more than a part thereof, this developer, still remaining in the film of the negative, was no doubt the cause of the stains. When fixing was followed by washing, this developer in the film was removed and the stains did not appear. If this contention be well founded it will be best for those intending to reduce negatives or portions thereof by the ferricyanide and hypo process to give them at least a partial washing.

An Amidol Developer That Will Keep

A reader in Illinois finds that the tones that he secures on his bromide and gaslight prints with amidol are the most pleasing to him, particularly in his sepia-toned prints. But he complains that amidol cannot be kept long in solution. If a solution is made by taking about one grain of acetone sulphite to each grain of amidol, it will be found to keep as will if not better than any of the other developers. The acetone sulphite, say forty-five grains, should be dissolved in twenty ounces of water, followed by one and one-quarter ounces of sodium sulphite, after which fifty grains of amidol are added. This makes a developer ready for use.

Using Powdered Pumice Stone

An amateur friend keeps a can of powdered pumice, such as can be obtained at any drug store, always handy on his work bench. If he wants to do some work on the surface of a print or negative, a little is dusted on and rubbed around with the tips of the fingers. It gives a fine tooth and does so with minimum amount of trouble. Using a little pressure and somewhat more rubbing, it is excellent for reducing too dense portions of a negative. Sometimes he makes a print on glossy paper and wishes to see how the same picture would look in a semi-matte surface. The pumice is dusted on and by rubbing it around the surface is made slightly rough. Smooth spots on carbon prints are made to match the surrounding surface in the same way. A stain or spot on the bottom of a tray can be removed very quickly by applying a little of the powder and rubbing it with a piece of rag.

Starch Test For Hypo

A correspondent asks how the starch test is made. Boil a little very thin starch paste until it is quite clear and then add a drop or two of tincture of iodine. This will at once turn the thin paste a deep blue color and a portion should be diluted with water until, when put on white paper, it tints the latter only slightly blue. If a little of this diluted, tinted starch be applied to the back of a print that is suspected of containing hypo, the blue color will be at once discharged, if any hypo be present, indicating insufficient washing. If the blue tint remains, it indicates that the print is practically free from hypo, that is, the washing has been complete.

The New Tariff on Imported Photographic Goods

In reply to several inquiries as to the new tariff on photographic goods of foreign manufacture, the following list is given as the present per cent ad valorem import duties on photographic products. The first column of figures gives the old rate, the last the new.

Films (rolls and packs), unexposed	.25	Free
Dry Plates, unexposed	.25	.15
Lenses (camera and projection)	.45	.25
Cameras, metal, wood or both	.45	.15
Papers, sensitized	.35	.25
Papers, not sensitized	.30	.15
Photographs, mounted or unmounted	.25	.15
Lantern Slides, plain or colored	.45	.25
Chemicals, liquid, powder or crystals	.25	.10 to 20
Chemicals in tablet form	.25	.25

As explained above, these figures represent per cent. ad valorem at the old and the new rates. Pyrogallic acid takes a separate new rate of twelve cents per pound in place of the old rate of twenty-five per cent. ad valorem.

A Very Fine Paste

A paste that will keep, one that is a stronger adhesive than ordinary starch paste, and one that closely resembles some of the commercial mountants, is made according to the following formula:

Picked white gum	1	ounce
Dextrine	4½	ounces
Stronger ammonia	8	drops
Water	16	ounces

Crush the gum in a mortar, add the dextrine and rub smooth with three or four ounces of the water, finally adding the remainder of the water and boiling for ten minutes with constant stirring.

OUR BOOK SHELVES

An Exceptional Issue

There is so much that is unusual about *Photo-Miniature* No. 126 that we think our readers should be informed as to its contains. Instead of the usual and characteristic monograph, this issue contains several lengthy articles dealing with processes of special interest to the photographer. The first is, "Putting Individual Backgrounds into Portrait Negatives"; the second, "How to Make Shaded Vignettes on White Ground Portraits"; the third, "The Use of Etching Knives in Working upon Negatives and Positives, the Straightening of Crossed Eyes, Reshaping the Figure, Making Changes in Clothing, Repairing a Broken Group Picture, and Vignetting a Head Out of a Group"; while the fourth deals with Repairing Broken Negatives. The methods are given by one of our own contributors, Carl A. Bergmann, a practical worker of much skill and experience. Each paper is very fully illustrated, so as to offer a complete demonstration of the working of the method or process described. This number of the *Photo-Miniature* ought to be of much interest to all our readers and worth many dollars to the professional photographer. Price, twenty-five cents. Sold by all dealers.

"The American Annual, 1914"

This new volume, the twenty-eighth annual edition, comes to hand a little late this time, yet it will be found on all the dealers' counters long before this reaches our readers. Like its predecessors, it is brimful of good pictures and helpful articles, and, like the others, should be in the hands of every photographer in the land who wishes to keep abreast of the work being done by others. The frontispiece is a handsome portrait in sepia on Artura Iris E Rough, while the body of the volume contains over two hundred and fifty reproductions of the best photographic work. This annual is nearly always sold out a short time after publication, and we would advise our readers, and dealers who have not already done so, to place their orders at once. George Murphy, Incorporated, 59 East Ninth Street, New York, are general trade agents. See their advertisement on another page.

"Deutscher Camera-Almanach"

This, the ninth issue of this excellent German annual, is just to hand with its wealth of fine illustrations and informative articles. Some idea of its value may be gleaned from the fact that only about thirty of its three hundred pages are devoted to advertising. And what adds still more to the value of the annual as a book is the fact that while the illustrations are of the finest they are practically all used as illustrations of the text, this last supplied by the makers of the pictures in the form of articles telling how they do their work. All in all, the book is one that every reader of German who is interested in photography will find of the greatest assistance in his work. It is published by the Union Deutsche Verlagsgesellschaft, Blucherstrasse 31, Berlin S 61, Germany, price four and one-half marks. The postage is almost another mark, so that any of our readers wishing us to order a copy sent direct to them, as so many do each year, should send us one dollar and fifty cents for that purpose.

"Oldruck, Bromoldruck und Verwandte Verfahren"

The above is the title of the sixteenth volume of Liesegang's Photographic Handbooks; and, to those familiar with any of the preceding volumes, little more than the title need be given. The issue before us is a complete exposition of the subjects covered, the oil and bromoil processes, by Alfred Streissler, an acknowledged authority on these subjects. In addition to the full and complete text, the book is made still more informative by the introduction of some fifteen plates and nineteen illustrations. The price is two marks, fifty pfennigs. Published by Ed. Lesegang's Verlag, Gabelsberger Strasse 4, Leipzig, Germany.

Johnson's "Art of Retouching"

The above title is the one commonly applied to a book that is practically a classic of its kind in England, a book that has just been thoroughly revised by Messrs. T. S. Bruce and Alfred Braithwaite for the seventh edition. The full title is, "The Art of Retouching Negatives and Finishing and Coloring Photographs," a title more descriptive of the full scope of the book. In addition to the thorough revision, some new and striking illustrations have been added to the fine ones in the original work. The gentlemen named above are acknowledged leading specialists, one of them being a successful teacher of retouching and the like, and their work has no doubt resulted in as complete, comprehensive and practical a treatise as could be desired. The book is being issued by Marion & Company, Limited, Soho Square, London, W., England, at two shillings sixpence, net. This means that readers in this country who wish to order a copy should send enough to pay postage, in addition to the price, which, with right packing, should make the amount to be remitted about seventy cents. The book is, we can assure our readers, excellent value, and those desirous of information on any of the subjects treated should send for a copy before the matter is overlooked.

"The Art of the Wallace Collection"

The importance of the Wallace Collection and its high rank among the art galleries of London are so well known that this intimate introduction to its art treasures, an introduction by so capable a guide as the author, Henry C. Shelley, should be appreciated. As a history of the founders, and the making national property of the collection, and as a description of the pictures and chief exhibits of objects of art and arms and armour, the author has succeeded most admirably in making the book an interesting one, even to the person not directly concerned with such subjects. To the person interested in art, the book is of the deepest interest, not only on account of its fund of information, but on account of the clear and informative way in which the writer has clothed his facts and impressions. Published by L. C. Page & Company, Boston, Massachusetts. Decorative cover with forty-eight full-page duogravures. Price, two dollars, net. Postage, twenty-five cents.

"Pollyanna: The Glad Book"

Pollyanna is a freckled irresistible in a checkered gingham dress that comes into the story at Beldingsville, and she does the reader a world of good, particularly if the reader be one that is in need of a little human sunshine to make a garden out of a desert heart. The story is one that takes hold, one to bring the laughter and the tears, one to make for the keener appreciation of the joys and blessings of life. Pollyanna is a most charming character, and the simple optimism of the story makes it of more real value than would be a less "gladsome" book. Pollyanna is only a little girl of eleven, going on twelve, a sunbeam, freckled somewhat, that teaches her game of gladness as she leads one's thoughts through all kinds of pathways, thoughts that are only too glad to be so charmingly led. The story is by Eleanor H. Porter and the illustrations by Stockton Mulford. Published by L. C. Page & Company, Boston, Massachusetts. Price one dollar and twenty-five cents, net. Postage, thirty cents.

"Uncle Sam's Star Route"

This is the title of a charming romance, the kind one starts and hates to lay down, with the Michigan "Iron Country" as the setting. The author, Betsey Ross, gives the story the form of a written confession, and does it in a most delightful manner. Aside from being a most delightful story, the book will have an added charm to our readers on account of the illustrations, these being fine reproductions of artistic photographs by our occasional contributor, H. Oliver Bodine, whose writings and pictures have always received so much praise. Our readers will make no mistake in ordering a copy; by mail postpaid, one dollar and fifty-five cents. The Twentieth Century Publishing Company, 2008 Calumet Avenue, Chicago, Illinois.

CLUB NEWS AND NOTES

Club Secretaries and others will oblige by sending us reports for this Department

An Interesting Series of Exhibitions

The residents of Buffalo, New York, have been enjoying and will continue to enjoy a most interesting series of one-man exhibitions of photographs that Spencer Kellogg, Jr., is holding in his private studio in that city. The first one, an exhibition of carbon prints by Wilbur H. Porterfield, was held during three days of November; the second was a collection of unusual and beautiful gum and platinum prints by Geo. H. Seeley, shown the early part of December, while the exhibition for the present month of January will be a collection of prints by Clarence H. White. It is indeed fortunate for the pictorial photographers that one of their number has capabilities and inclination to offer them the rare treat that this series of exhibitions affords, and we trust that they will show their appreciation thereof by the large attendance that these noteworthy exhibitions merit.

Herr Perschied in Stockholm

Herr Nichola Perschied, member of the London Salon, recently appointed teacher of pictorial photography at the Lette Institute of Berlin, a worker of world-wide repute in artistic circles as well as in his own profession, has been invited by the Professional Association of Swedish Photographers (Svenska Fotografen Forbund) to deliver a series of lectures and demonstrations in Stockholm.

At the first of these he met a highly appreciative audience of over seventy-five of the leading Swedish, Danish, Finnish and Norwegian photographers, gathered there, eager to hear this authority on matters pictorial and technical, expound, with practical example, his thorough knowledge of the subject. Herr Perschied showed, by practical demonstration, that which was the most esthetic, refined, and self-containing in portraiture. He gave demonstrations in oil, bromoil, platinotype and multiple printing, as well as in the hyper-sensitizing and artificial light exposing of color-screen plates. These lectures will, without question, be noteworthy events in the annals of the Scandinavian photographic world.

Mr. Snow Resigns

A. J. Snow, who founded the United Stereoscopic Society of England in 1904, has resigned from the secretaryship, which he has held from the beginning. G. W. Stannard, another enthusiastic stereoscopic worker who has long been a member of the Society, succeeds him. Mr. Snow is well known to our readers through his occasional contributions of pictures and articles to our pages and it is unnecessary to say anything concerning the high quality of his work. The Society is indebted to Mr. Snow for the high position which it maintains in photographic circles, a position that entitles him to a marked degree of credit and esteem.

The South London Exhibition

The Twenty-sixth Annual Exhibition of the South London Photographic Society is announced as to be held at the South London Art Gallery, Peckham Road, from March twenty-first to April fourteenth, inclusive. Foreign and Colonial entries close February fourteenth and British entries on February twenty-seventh. This society has won a very high position for itself in the matter of its exhibitions, those held by it having steadily grown in importance to a position of eminence that calls forth the best work of the prominent pictorialists of the world. Prospectuses and entry blanks can be obtained by addressing the Honorable Secretary, J. Henry Perkins, 103 Bushey Hill Road, Camberwell, London, S. E., England.

Photographic Arts and Crafts Exhibition

The Photographic Arts and Crafts Exhibition will be held at the Royal Horticultural Hall, Westminster, from May eighth to sixteenth next, and the Professional Congress will, as usual, be held in connection therewith. Applications for space should be made as early as possible, as the accommodation available is very limited, addressing Arthur C. Brookes, Secretary, Sicilian House, Southampton Row, London, W. C., England.

Toronto Camera Club

The Annual Salon of this enterprising club will be held the week of April twenty-seventh to May second, inclusive. A gold medal will be awarded to the best picture in the Salon, and a silver and bronze medal, respectively, to the first and second in the following classes: Portrait, Landscape, Marine and Genre. Prospectus and entry blanks can be secured by addressing the Secretary-Treasurer, Edward Y. Spurr, 2 Gould Street, Toronto, Canada.

The Foto-Craft

A number of enthusiastic camera workers of Bangor, Maine, have formed a club to promote an interest in photographic art, one to be known as The Foto-Craft. A club room has been secured at 57 State Street and an exhibition, which received favorable comment from both public and press, was recently held in one of the leading department stores. Officers have been elected as follows: President, Dr. O. B. Humphrey; Vice-President, Richard True; Secretary, Charles R. K. Page; Club Committee: Preston Williams, Albert Farrington and George L. Francis.

Chicago Camera Club

The Club has the honor of having upon its walls during the month of November a one-man show by B. J. Morris, a member of the Club and one of the Photo Fellows, and one who has done some exceptionally beautiful work.

One of the best features of the exhibit was Mr. Morris' presence at each of the club meetings, at which he seemed more than pleased to explain his methods and processes to those anxious to learn pictorial photography.

Not only was this an exceptional treat to the members, but it provided a rich lesson to their friends interested in the craft.

All members interested in color photography, and all other photographers in the city interested in this work, were called to a meeting in the club rooms, Tuesday evening, November twenty-fifth. The Autochrome and other color-reproducing methods were studied and experimented with. No dues or fees are charged, as this is merely a voluntary circle of interested amateurs.

Keighley Exhibition in Paris

The first exhibition of the works of foreign artist photographers opened on November sixteenth, under the management of L. Reusse, director of the photographic section of Poulenc Freres, 19 Rue du Quatre-Septembre. Alexander Keighley, the well-known English landscape artist, brought for the first time before French public a complete collection of his works. It would be superfluous to say that they found, with the Parisian public, the same brilliant, flattering reception accorded both at Munich and at the London Camera Club some months ago.

Amongst the distinguished visitors were Messrs. Emile and Camille Poulenc, vice-president and administrator, respectively, of the Society; Maurice Bucquet, the eminent president of the Paris Photo Club; M. Bourgeois, secretary-general; M. Robert Demachy; Messrs. Hachette, Berceon, Mareschal and Monpillard, representing the French Photographic Society, and many other officers and representatives of the leading societies.

Mr. Keighley was present at the inauguration and expressed his satisfaction at the approbation bestowed on his work and the sympathy shown to himself personally. The visitors were charmed by the simplicity and friendly manners of the eminent artist.

Attention seemed particularly attracted by the vigorous treating of "The Sphinx," the luminous tinting of "The Bridge," and in the delightful poetry expressed in both "A Spring Idyl" and "Fantasy." But among the pictures, none elicited greater admiration than "Peace," for none perhaps equal it in beauty, united with the perfect sentiment of repose pervading the scene.

Exhibitions such as these constitute not only a delight for the eye, but they likewise offer most useful lessons. We therefore hope that the Poulenc Gallery may often show us others of this kind, not only for the pleasure they give, but because French photographic art cannot fail to derive a benefit therefrom.—C. de la Noue.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

New York Circulating Album

November fifteenth our last and best album went forth upon its journey to but sixteen members out of the large number in this State. It contained thirty-two prints and goes to a few members who were not represented therein, as well as to the makers of the prints included in the collection. With this regular album there was sent a second album containing a few colored prints kindly contributed by an active and enthusiastic member who does excellent work in this line, Charles F. Rice, of Mamaroneck. Another album will be started out during December or early in January. The last preceding album has become lost somewhere on the route, but I am tracing it by means of notices from those on the route list. Immediately after the holidays, I shall make an effort to get twenty-five members on the album route so that the albums will have more interest for a large number.—Louis R. Murray, New York State Album Director, 313 Ford Street, Ogdensburg, New York.

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

New Members

3751—Harry J. Fromm, 618 Marshall St., Elizabeth, N. J.
4x5, post cards, and smaller, developing and printing-out papers, of views, landscapes, historic and general views; for portraits and genre and anything interesting. Both post cards and prints. Class 1.

3752—J. H. Stewart, 42 Robert St., Hamilton, Ont., Canada.
2¼x4¼, developing paper, of buildings; for the same. Post cards only. Class 1.

3753—N. Straley, Paradise, Ore.
3x5¼, developing paper, of views; for the same. Post cards only. Class 1.

3754—Walter S. Ernst, Box 97, Ragland, Ala.
3¼x5½, developing paper, of street scenes, rural life, and Southern views in general; for general views. Class 1.

3755—Charles F. Kimball, Sgt. 1st I., H. C., U. S. Army, Fort Gibbon, Alaska. Class 2.

3756—H. W. Stratton, Box 161, Coyote, Cal.
Class 2.

3757—L. F. Sternemann, Box 495, Hilo, Hawaii, T. H.
1⅝x2¼ and 4x5, developing papers, of scenic and marines taken in Hawaiian Islands; for scenic and marines or lantern slides. Class 1.

3758—R. B. Foster, Box 133, Berlamont, Mich.
3¼x5½, developing paper, of landscapes, water scenes, wood scenes, etc.; for foreign views, scenery, old ruins. Foreign only. Class 1.

3759 Asa Schenck, Box 103, Piedmont, Okla.
Class 2.

3760—William R. Lawrence, Cloverdale, Ore.
3¼x5½, developing papers, of beach scenery, sea views, and valley scenes; for any places of interest. Post cards only. Class 1.

3761—Emory H. Tewksbury, 143 Eighth Ave., Homestead, Pa.
Lantern slides. Class 1.

3762—P. J. Lindbeck, Lock Box 31, Concrete, Wash.
3¼x5½, developing papers, of scenery, mountains, woods, streams in Skagit River Valley and Baker River Valley; for scenery of any kind. Post cards only. Class 1.

3763—W. Lutz, Port Townsend, Wash.
Class 2.

3764—F. C. Greene, Box 88, Michel, B. C., Canada.
Class 2.

3765—Carl F. Mathews, Box 23, Colorado Springs, Colo.
Class 2.

3766 Fred G. Layton, Box 334, G. P. O., Wellington, New Zealand.
3¼x4¼ and post card size, developing and printing-out paper, of New Zealand scenery, views and native types; for photographs of sailing ships only, any size. Class 1.

3767—J. P. Connolly, care Perfection Spring Co., Cleveland, Ohio.
3¼x5½, also bromide enlargements, developing and bromide papers, of general subjects, a few marines, landscapes, local views; for general subjects, especially marines, animals, and mountainous country. Class 1.

3768—Rolland L. Welker, 1034 Cleveland St., Kansas City, Kan.
4x5 and smaller, developing and printing-out papers, of landscapes and marines; for landscapes, marines, historical places, and mountains. Class 1.

3769—Charles H. Marshall, 502 Warren St., Newark, N. J.
3¼x4¼, 4x5, 5x7, developing papers, of miscellaneous subjects; for anything of value. Class 1.

3770—J. William Harmon, P. O. Clerks' Box, Oklahoma City, Okla.
3¼x5½, post card, and 5x7, developing papers, of mostly landscapes, some child life, buildings, and street scenes; for landscapes, etc., especially marines and river views, also snow scenes. Class 1.

3771—J. P. Graham, 823 Nob Hill Ave., Seattle, Wash.
Up to 4x6, developing papers and post cards. Any kind of prints, but especially sailing vessels of any nationality, at anchor or under sail. Good work sent and desired. Class 1.

RENEWALS.

3730—D. O. Verity, R. F. D. No. 1, Bennet, Neb.
Class 3.

3731—P. Hagedorn, 2313 Wentworth Ave., Chicago, Ill.
Post cards, developing paper, of city and park views; for the same. Class 1.

3732—Harry M. Clark, Northwestern Military Academy, Highland Park, Ill.
3¼x5½, 4x5, and 1¼x2½, developing papers, of good work and views of different kinds; for anything of interest. Class 1.

3733—Melvin Helan, R. F. D. No. 1, Stanley, Wis.
Class 2.

3734—Guy C. Redmond, 204 Main St., Pine Bluffs, Ark.
5x7, 3¼x4¼, and 3¼x5½, developing paper, of poses of people as is the general kind of a three-minute P. C. studio; for lantern slides and landscape scenes. Class 1.

3735—Jay A. Smith, Lock Box 492, Holstein, Iowa.
Class 2.

3736—Mary Thayer, Oakland, Iowa.
Class 2.

3737—Cleveland S. Harris, care Nelson's Photo Shop, Empire, Canal Zone.
Class 2.

3738—Wm. F. Prevett, 303 So. Loomis St., Chicago, Ill.
3¼x5½, various papers, of views, flashlights, and outdoor groups; for flashlights, ocean views, beach and street scenes. Post cards only. Class 1.

3739—Jewell G. Wall, P. O. Box 247, Mathis, Texas.
Class 2.

3740—F. P. Rehmeier, Sixth and Main Sts., Keokuk, Iowa.
Cabinet or larger, developing papers, of baby photographs and views; for baby photo studies. Class 1.

3741—W. K. Edge, O. A. C., Guelph, Ont., Canada.
3¼x4¼, developing papers, of scenery of Ontario; for scenery or views. Class 1.

3742—S. H. Nichols, Box 96, Merced Falls, Cal.
Lantern slides of landscapes, architectural and child studies; for the same. Class 1.

3743—N. A. B. Whitford, 379 Cannon St., Hamilton, Ont., Canada.
3¼x5½, developing papers, of scenery; for the same. Post cards only. Class 1.

317X—J. C. Hegarty, Utahville, Pa.
3¼x5½, 4x5, 5x7, 6½x8½, developing papers, of views of scenery and places of historic interest made in different parts of the United States; for views of scenery, portraits, and draped studies. Only good work sent out and desired. Class 1.

2175X—R. H. Hedrick, 29th and Faraon Sts., St. Joseph, Mo.
Post cards only. Class 1.

2395—Charles Thomas, R. F. D. No. 1, Box 28, Greensburg, Kan.
Up to 5x7, developing and printing-out papers, of farm, landscape and street scenes, also portraits; for anything of interest. Post cards or prints. Class 1.

2482—John W. Kimball, Guard Vt. S. P., Windsor, Vt.
5x7 and post cards, developing papers, of views of New England scenery, such as rivers, lakes, mountains, and landscapes; for views of scenery of different parts of the country. Would like to get a good set of views from Yosemite Valley and Yellowstone National Park. Will send good work and care only for the same. Class 1.

2562—Z. T. Rawlston, R. F. D. No. 1, Hixson, Tenn.
Will exchange views of nature, animals, and buildings for any views of interest. Post cards only and only good work received or sent out. Class 1.

2773—John L. Maloney, Box 56, Missoula, Mont.
Class 2.

2952X—W. G. Conger, Box 557, El Paso, Texas.
3¼x5½ and 4x5, developing papers, of scenes in Missouri, New Mexico and Texas; for street and park scenes, views of the Rocky Mountains, scenes showing California, seaside resorts and beaches, and photos of interesting events. Keep your art. Post cards only exchanged for post cards and 3¼x5½ prints. Class 1.

3133—A. E. Davies, 2954 Linden Ave., Berkeley, Cal.
Class 2.

3144—A. D. Miller, 3903 Winom Place, N. W., Washington, D. C.
5x7 and smaller, of Oregon, California and Nevada pictures and a few Washington, D. C., chiefly outdoor views; for anything of interest. Good work sent and requested. Class 1.

3184—J. Fred Fehr, Naperville, Ill.
Lantern slides. Class 1.

3275—Mrs. John Cowie, R. F. D. No. 3, Warsaw, N. Y.
4x5, developing paper, of landscapes, park views, street scenes, public buildings, farm views, and animals; for landscapes, park views, mountain scenes, farm views, and animals. Post cards and 4x5 prints. Class 1.

3506—William H. Clark, Jr., 235 Cherry St., Philadelphia, Pa.
2¼x3¼ to 3¼x5½, and enlargements to 8x10, developing and printing-out papers, of park scenes, seashore, city, landscape, genre, historical buildings; for the same. Prefer to furnish and receive 5x7, but will exchange any size. Good work only sent and desired. Class 1.

3531—George C. Allen, 47 Morris St., Hartford, Conn.
All sizes up to 5x7, developing paper, of views of New England scenes, marines, public buildings, and historical views of New England; for anything of interest. Class 1.

3537—Uri Mulford, 30 Jennings St., Corning, N. Y.
4x6 and smaller, developing paper, of views of New York, Boston, Niagara Falls, lumber camps, etc.; for marine and any of general interest. Good work only. Class 1.

3554—L. N. Searles, Sioux Falls, S. D.
3¼x4¼, 3¼x5½, and post cards, of various papers, of landscapes, river views, and general subjects; for landscapes, marine, historical and general subjects. Good work only, as I expect to send out same. Post cards preferred. Class 1.

3618—Robt. A. Parker, 1119 Franklin Ave., Fresno, Cal.
3¼x4¼, 3¼x5½, post cards and occasionally enlargements, of mountains, views, big trees, and miscellaneous; for the same or nature studies, wild birds, animals, etc. Will appreciate criticism of my work from any one that does not find it satisfactory. Class 1.

CHANGES OF ADDRESS.

2769—C. W. Junkens, 1033 Gale St., Indianapolis, Ind.
(Was 1322 N. Keystone Ave.)

3025—Felix Cramer, care Empire Steel & Empire Co., Wharton, N. J.
(Was Mexico City, Mexico.)

3545—Mrs. Ina L. Cook, P. O. Box 1344, Tucson, Ariz.
(Was San Mateo, Cal.)

3595—Major Wm. R. Eastman, Post Graduate M. S. & H., 20th & 2d Ave., New York, N. Y.
(Was Columbus, N. M.)

3628—C. M. Davidson, 1840 Ingleside Terrace, Washington, D. C.
(Was 2302 17th St.)

3634—L. J. Fremean, 1238 S. Hill St., Los Angeles, Cal.
(Was Phoenix, Ariz.)

3657—H. N. Krenkel, 2210 K St., Sacramento, Cal.
(Was 725 9th St.)

3661—H. B. Turner, care H. C. Turner, Samson Store Service Co., Devonshire St., Boston, Mass.
(Was Cambridge, Mass.)

3684—W. J. Willis, Janesville, Minn.
(Was U. S. S. Newport, care Postmaster, New York.)

3698—Ross Miner, Mangum, Okla.
(Was Granite, Okla.)

3702X—Joe R. Forkner, 4214 14th Ave. N. E., Seattle, Wash.
(Was Box 204, Missoula, Mont.)

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

Maxwell & Mudge, of Fresno, have moved into their new ground-floor studio.

Fred Lindroth, of Modesto, is already quite busy with his holiday work.

L. E. Sherwood, of Stockton, has bought still more shares in the Cook's Water Company.

Charles Boussum, of San Francisco and Sacramento, is opening a new studio in Stockton.

Mr. Sackrider, of Forest Grove, Oregon, has bought the Green Studio, in Marysville. We wish him success.

J. F. Zink, of Orland, is now located in Chico.

Mr. Mullender and Mr. Post were both in Fresno at the time the writer visited that town.

F. H. Hanson, of Stockton, has sold to W. A. Brown and has taken a half interest in L. E. Sherwood's studio, which will be conducted under the name of Hanson & Sherwood.

A Good Flashlight Powder

Readers will do well to investigate the claims made for the Ancelo Flashlight Powder advertised on another page by the Photo Chemical Company, of 3042 Cortland Street, Chicago. We have seen some work done with it by a newspaper photographer, and his high praise seems to bear out all the makers claim for it. Should you not be able to secure it of your dealer, write the manufacturers and tell them so, and they will no doubt be glad to make it possible for you to try their product.

Printing In Backgrounds

Our readers should not overlook the advertisement of the Barnes "Auto Background Print-in Films" that occupies a full page in this issue, as it did in our last. These halftone reproductions do not do the films justice, as these reproductions do not give the proper suggestion of the fine effects we have seen produced with the films. Mr. Barnes will gladly send a catalogue showing some twenty-four designs out of the thirty that one set gives. All that one needs is a plain ground of any color except white, and a set of these films. No cumbersome grounds that become hackneyed and worn, and the degree of softness and tone of the picture always under easy control in printing. Mr. Barnes is an old background painter and knows what is required. He guarantees entire satisfaction or money refunded and our readers cannot ask more. Send for the booklet, addressing H. P. Barnes, La Porte, Indiana, now, before the matter is overlooked.

Are You Next?

That extraordinary trial offer of the Photo Products Company, Chicago, is continued in this issue. So many who have benefited by this liberal proposition are recommending Instanto to their friends that the manufacturers wish to give all a chance to try it at little expense. Sending three full dozens of postal cards prepaid for twenty-five cents looks like a losing game, and so it would be were it not for the fact that the large majority follow with a trial order, and also become Instanto boosters, a sort of an endless chain.

Any of you who are already Instanto users, and who have not received the new price list showing the extra hard, buff, and linen surface grades, should request a copy at once. The list will be sent to any one, even if the trial offer is not accepted. Act now, addressing the Photo Products Company, Department E, 6100 La Salle Street, Chicago, Illinois.

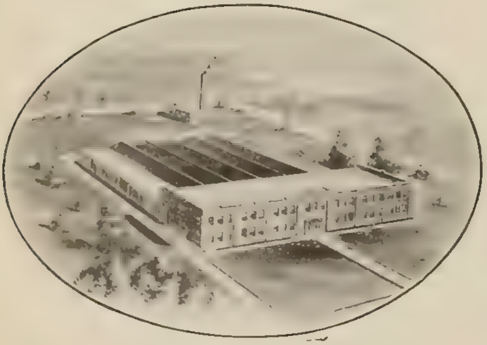
More Commodious Quarters

The business of the International Photo Sales Corporation has increased to such an extent that they have found it necessary to take larger and more commodious quarters.

While still at 235 Fifth Avenue on the same floor as formerly, their offices, show and stock rooms are enlarged and now give an opportunity of displaying their products and handling orders to better advantage. The show room, particularly, is splendidly arranged and they advise that they take pleasure in inviting any of our readers who may reside in or expect to visit New York, to call upon them and inspect one of the most complete lines of cameras, lenses, and other photographic accessories ever offered in America.

Wollensak Optical Co. Build New Factory

In the early part of September, 1913, the Wollensak Optical Company decided to build a new factory, it being necessary to increase their manufacturing facilities in order to take care of their growing business. Accordingly, a tract of land was purchased on Clinton Avenue North and Norton Street, containing three and a half acres. October sixteenth, ground was broken for the new buildings, and it is expected that they will be moved into the new plant some time during the latter part of February or the first part of March.



Their new factory will contain over forty thousand square feet of space, which they anticipate will take care of their needs for a while. It will be a model of its kind, with every convenience for the employes and the latest machinery for doing the work in the best possible manner and in the shortest length of time. The front building is one hundred and seventy feet long by thirty feet wide, and two stories high, with the offices and shipping rooms located on the first floor, and the assembling department, lens-testing department, etc., on the second floor. Extending back from this building will be the factory building, measuring one hundred and seventy feet square, one story high, with saw-tooth lights, which will give uniform illumination throughout the factory from overhead. As there is plenty of land in reserve, additions can be made at any time without interfering with the operation of the plant.

The Wollensak Company have asked us to extend a cordial invitation to readers of this publication to visit their plant when in Rochester, at which time everything that is possible will be done to make their visit a pleasant one.

Lower Duties, Lower Prices

The Taylor-Hobson Company announces that after February fifteenth, 1914, the prices of most Cooke Anastigmat Lenses will be reduced. The new prices will be printed in all the Cooke lens catalogues circulated after that date, and will show a reduction averaging from ten to fifteen per cent on most sizes. This reduction has been made possible by the change in tariff and should prove interesting to those photographers who appreciate the best lenses and who may wish to purchase one or more during the coming season. The sales of Cooke lenses have increased rapidly during the past few years and this reduction in prices will no doubt result in a still further rapid increase in the sale of these remarkably fine lenses.

A New Photo Stock House

Henry G. de Roos, formerly manager of the Sunset Photo Supply Company, Incorporated, of this city, has taken the management of the Mission Photo Supply Company, Incorporated, 3090 Sixteenth Street. This new firm will carry a complete line of photographic supplies, including Defender products, Ansco products, Cyko paper, and a large stock of Ensign cameras and films, Imperial plates, etc. The company has taken over the American Photo Specialties Company's factory and plant and will continue to manufacture the well-known "A. P. S." photo requisites, such as Firelite Solution, Exol, Velvosol, Clearo Compound, developers, etc. The company has also taken over the Sunset Photo Supply Company's thirty-five thousand dollar stock of merchandise on a consignment basis, and a large and complete bargain list has just been completed. Pacific Coast photographers will do well to send for a copy.

Illinois College of Photography

Carl Burkhardt, who finished a course in photography last month, has taken a position at St. Augustine, Florida.

Among the students enrolled for November were two from abroad, S. Kubota, of Japan, and Miss M. Racoubian, of Turkey in Asia.

We have just received news of the marriage of Christ Iversen, of 1909, to a young lady of Charter Oak, Iowa, his home town.

Harold Leek, of 1912, has returned to the college for a short post-graduate course in commercial photography.

The Photo-Engravers' Working Club have installed a fine new Levy halftone camera in their club rooms.

Professors Latshaw and McCorkill attended the Eastman School of Photography at St. Louis last month in quest of new ideas.

Secretary Rinehart took a week's vacation last month to hunt quail and prairie chickens.

To Learn Retouching

This new age of photography depends on quick action, clear understanding and a systematic way of retouching. The uniformity of good professional studio negatives, and also the great variety of photographic productions in general art portraiture, under all conditions, and on the many different brands of dry plates, demands increased skill and understanding on the part of the retoucher. The special treatments of subjects so that they will co-operate in a proper business way with the operator's ideas and productions, and also meet the expectations of the patrons of the present time and the "beauty specialists," are necessarily weeding out old, plodding notions. The revised methods, combining knowledge of quality of negatives and the requirements needed to properly dispose of the blemishes, etc., concern the future of every intelligent photographer, and with a survey of the past, every thinking retoucher must live the part in desiring the all-valuable retouched negative to pass through the printing department properly, so that it will meet with the approval and admiration of the customer.

The M. I. L. Retouching School (established fourteen years) offers well-defined instructions which, if followed out, will be found to be all that are necessary or obtainable through long experience. Fully worked out ideas are demonstrated, which will enable any person to become a proficient retoucher. The address is 3946 Drexel Boulevard, Chicago, Illinois, and interested readers should apply for terms.

Colors in Photographic Prints

The introduction of the note of appropriate color into a photographic print is felt by many workers to be all important from an artistic point of view. Lovers of those delights of the eye which are found in the blue depths of sea or the luscious green of grassy slopes, will be interested in the two new "Tabloid" Toners recently introduced by Messrs. Burroughs, Wellcome & Company. "Tabloid" Blue Toner provides a ready means of toning bromide and gaslight prints and lantern slides to a very pleasing color. It is a true toner of the one-solution type. The depth of color follows the gradations of the original so that the shadows are a deep, rich blue followed by a pleasing gradation through the halftones to the high lights, which are remarkably pure. Both Blue and Green Toners are suitable for many of those decorative subjects for which the carbon process hitherto has been the only method available. Their value for summer landscapes with plenty of verdure, moonlight effects, seascapes and waterfalls is apparent.

The method of using the toners, like that of all "Tabloid" photographic chemicals, is admirably simple and precise. There are two tubes, A and B. The A and B products are dissolved in water, and the prints or slides immersed for a brief period, varying from one to two minutes, in the toning solution thus produced, and then washed. Full directions are included with each package of "Tabloid" Blue and Green Toners, which are being placed on the market and will be obtainable through any chemist or photographic dealer.

A New Ensignette

There has been an addition made to the Ensign line, the Ensignette De Luxe camera. It is a very fine model, fitted with a high-grade Anastigmat lens and a Compound shutter with speeds up to one three hundredth of a second. The outside dimensions of this camera are only 2⅜x5x1 and the workmanship and finish throughout are of a degree of excellence that will appeal very strongly to the advanced amateur. This Ensignette is offered with two different lens equipments; a Zeiss Tessar, f-6.3, or a Zeiss Triotar of the same speed, mounted in a three-speed shutter. The Ensignette cameras, since their first appearance on the American market, have met with gratifying success. Our readers will be interested in this new model and we would suggest their obtaining the full descriptive circular by addressing the American agent, G. Gennert, 24 and 26 East Thirteenth Street, New York; 320 South Wabash Avenue, Chicago, or 683 Mission Street, San Francisco.

A Timely Suggestion

The long evenings are now here. You can make your camera still more useful by doing flashlight work. "Agfa" flash powder enjoys a high reputation for its wonderful light-giving qualities, particularly in connection with the small amount of smoke developed. The amount of powder required for any given amount of light is surprisingly small. Convince yourself of the merits of "Agfa" flashlight powder by giving it a trial. It can be obtained from all photographic dealers or direct from the Berlin Aniline Works, 213 Water Street, New York.

Autotype Photogravure Carbon Tissue

In the December seventh issue of *The New York Times* there was inserted a great sheet, showing many pictures of what was represented to be the American Girl. This sheet illustrated the new process fast coming into use by the leading newspapers in England, Germany and the United States. These pictures, combined on a large double sheet of the issue referred to, and called the special Rotogravure Section, show a process that is to make the usual pictorial section worth far more than heretofore.

Rotogravure presses for the use of *The Times* are now being built in Germany, and it will not be long before these presses will be used in the production of all the pictorial sections of that paper. The Rotogravure, briefly described, is an adoption of the slow and expensive work of the rotary gravure to the fast rotary presses. This process greatly increases the demand for the Autotype Photogravure Carbon Tissues, and specially for the new G-4 and G-5 tissue, used specially for this work. The American agents, George Murphy, Incorporated, 59 East Ninth Street, New York, will be pleased to give all information and quote prices.

Assur Colors

In a circular recently issued by Messrs. Schering & Glatz, of New York, a series of opinions concerning the Assur coloring method is given by professional photographers, amateurs and artists, which prove that this new method of coloring photographs is the simplest and most effective on the market. Even those who have but a very limited knowledge of the use of colors are in a position to color their photographs effectively, and because the colors can be readily removed with turpentine without the least injury to the print, several attempts may be made on one photograph, should the first one not satisfy the artist.

Those of our readers who are not using the process already should obtain the directions for use and the circular containing opinions, from Schering & Glatz, 150 Maiden Lane, New York.

Dr. Bigelow's New Lectures

Edward F. Bigelow, A. M., Ph. D., the well-known teacher, editor, author and naturalist, has sent us two most interesting circulars that show the wide scope of his work. One of them shows a large number of quotations from his fellow editors, expression of keen appreciation and kindliness regarding what he is trying to do in disseminating a knowledge of nature. The good doctor can, at the very best, find the work only fairly remunerative, getting perhaps enough out of it to pay actual expenses, while devoting a great amount of time to the good of the cause, as is explained in the circular regarding Arcadia and the work of the Agassiz Association. He usually makes all appointments direct, though not objecting to people negotiating with their lecture bureau if they are accustomed to do so, as assignments frequently come to him in the regular lines of the lecture bureaus. The circular containing letters shows that he has lectured extensively in California and is planning to come here again, some time. The wide range of localities from which the letters come, show you he has lectured all the way from Maine to California and from the northern part of the United States to the southern, and that everywhere his work has been accorded the highest praise.

XXI No. 2 FEBRUARY, 1914 Price, 10 Cent

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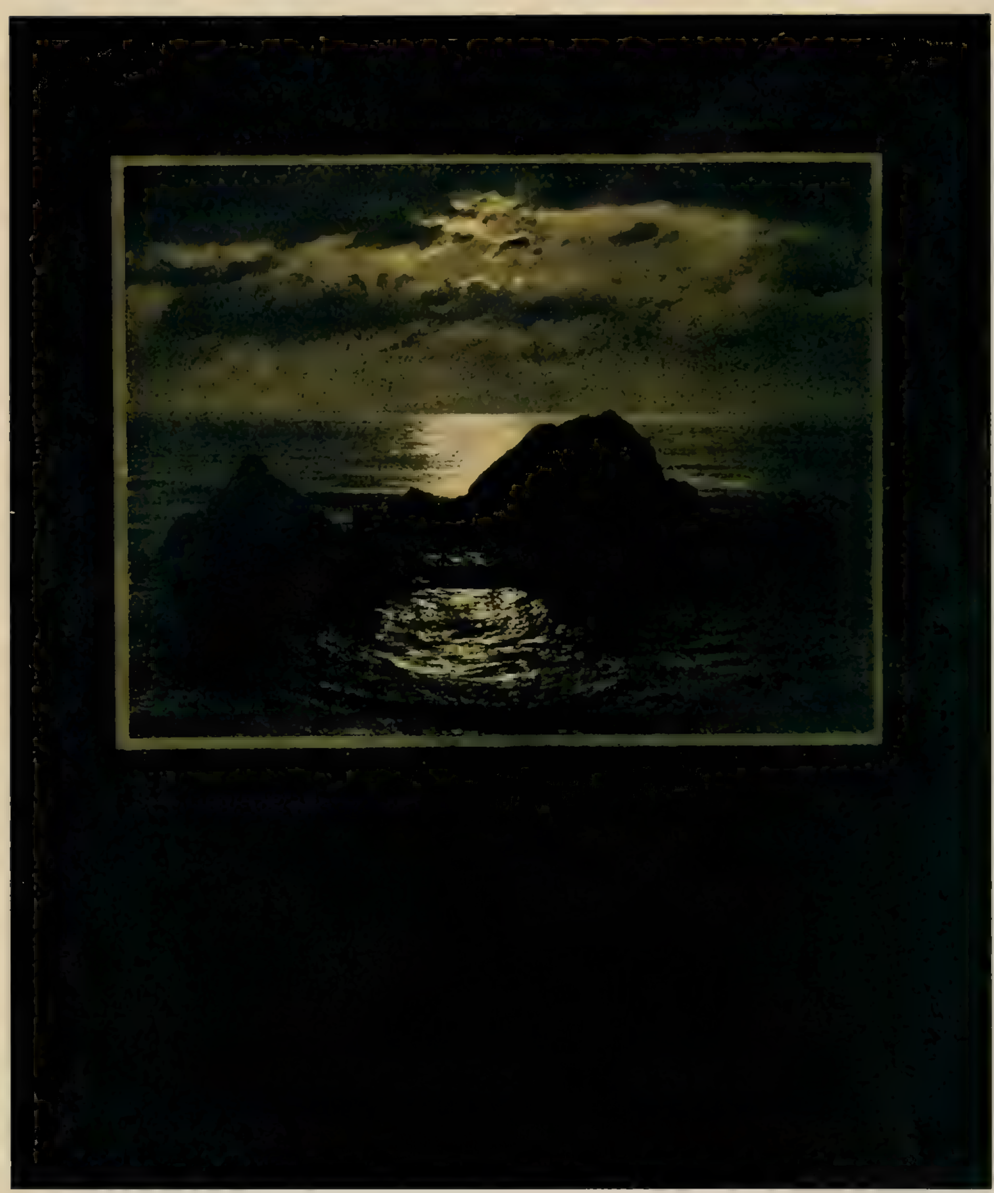


MOONLIGHT, SEAL ROCKS
By C. F. ARMSTRONG

CAMERA

CRAFT

A PHOTOGRAPHIC MONTHLY
FAYETTE J. CLUTE, Editor and Proprietor
CALL BUILDING SAN FRANCISCO CALIFORNIA

VOL. XXI FEBRUARY, 1914 No. 2

Carbon Printing

By Louis A. Goetz

With Illustrations by the Author

The carbon process has been written upon so often and so fully that I will here limit myself to the two manipulations, printing and developing, as carried out in my own practice. Carbon tissue, as it is called, is a film of gelatine in which has been incorporated a colored pigment, coated on sheets of paper, this paper being only intended to support the film during exposure. This tissue, when immersed in a solution of potassium bichromate, becomes sensitized upon drying; and, when exposed to light under a negative, the tissue is rendered more or less insoluble according to the amount of light which is passed through the different parts of the negative. To develop this tissue, warm water is used, the soluble portions of the film being dissolved or washed away, leaving a positive image made up of the insoluble gelatine.

The most suitable negative is one that will give a good print on platinotype or a strong one on printing-out paper. Good results can also be had from almost all negatives, except those that are weak and foggy, by varying the strength of the sensitizer.

To sensitize, the carbon tissue is introduced, face upwards, into a solution of potassium bichromate, made by dissolving one ounce of potassium bichromate in thirty-two ounces of warm water and then adding twelve minims of stronger liquid ammonia. The bichromate may be dissolved by shaking, but a better method is to tie the desired weight of bichromate in a piece of muslin and suspend it in a wide-necked bottle containing the amount of warm water desired. When cold, the solution may be bottled and kept for use. It is better to keep the sensitizing solution in a dark bottle, as the decomposition is then less rapid.

When ready to sensitize, take the piece of tissue of the desired cut size, put it face up in a dish containing the sensitizing solution, and allow it to remain therein for one minute and a half, rocking gently to avoid air bubbles. Then turn the paper face down, take hold of it at the corners with both hands, draw it over the edge of the dish so as to free it as much as possible from adhering solution, and hang up in a dark place to dry. It may either be pinned to a lath or suspended by wooden clips hanging from a string. The pigmented tissue becomes very tender and great care should be taken that nothing comes in contact with it until perfectly dry. While wet, the paper is not sensitive to artificial light, but the drying must be done in the dark and should be complete in about six hours; long-delayed drying being likely to cause insolubility of the tissue. It is preferable to dry in a warm place free from dampness and with plenty of air-space. The tissue, when thoroughly dry, curls somewhat and feels quite crisp; it is then stored in a calcium-chloride box and will safely keep over a week. If conditions are right, it may keep for a month, but its tendency is to slowly become more and more insoluble after being three days old.

In printing, the perfectly dry tissue is placed, in artificial light, over the negative in the printing frame. It is necessary for the negative to have what is called a safe edge; that is, a narrow margin of the negative must be rendered opaque by strips of black or yellow paper, the object of the safe edge being to insure a soluble margin to the printed tissue by protecting it from the action of light; this soluble margin preventing any risk of the pigment forming the picture image washing away at the edges during development. As it is very important that the tissue be kept dry while printing, it should be done, whenever possible, in dry weather; but if it has to be done on a damp day, one should put a piece of sheet rubber between the tissue and the back of the printing frame and slightly warm the negative. Exposing should be done in the shade, the heat of direct sunlight tending to crack the tissue; and, as no visible image is produced, the length of exposure must be determined by an actinometer. These are obtainable in various forms and I need hardly describe any of them. Personally, I prefer the Wynne actinometer, but there are others, all very good.

The various tissues will, with a few exceptions, be found to be of practically equal sensitiveness. Black and dark blue, having a greater capacity and covering power than the browns, need not be printed so deeply. Red chalk is a color or pigment that maintains the solubility of the gelatine and therefore requires about a third longer exposure than other tissues. Bright blue and turquoise, on the contrary, have an enhanced sensitiveness; exposure should, in their case, be only about half that given the various browns. I would not advise a beginner to use these last two until he had become familiar with the printing of the other more commonly employed black and brown colors.

First of all, the development of a carbon print requires no dark-room, the operation being performed in subdued daylight, and no chemicals are required. The only agent needed is water, cold and hot. Development should follow immediately after printing, as the action of the light slowly continues. A normally printed piece of tissue, if left undeveloped more than a few hours, will develop up as if overprinted. After taking, in artificial light, the exposed tissue from the printing frame, it is immersed in cold water, where it becomes insensi-

THE WATER WITCH

POVERTY AND LUXURY

tive as it becomes dampened. A sheet of the transfer paper, which must be somewhat larger than the tissue, should be put to soak in a separate dish of cold water. When the exposed tissue is put in cold water it will, after first curling inwardly, start to become flat; and as soon as it begins to do this last, it must be removed from the water and laid, coated side down, upon the surface of the transfer paper, and the two squeezed into contact to exclude air and superfluous moisture, afterward placed under pressure between blotting paper for fifteen or twenty minutes. When using thick or rough transfer paper, it is advisable to let it soak in cold water for as long as an hour; neglect of this precaution will result in imperfect adhesion and blisters may form during development. The tissue, with its support, can then be brought into daylight to be developed, if desired. Put them, tissue side upwards, into hot water at a temperature of one hundred to one hundred and ten degrees Fahrenheit. In this the original support of the carbon film or tissue loosens and is gently removed under water, after which the picture beneath is developed by gently splashing the warm water over the face of the print. This washes away the remaining soluble gelatine and pigment, leaving the picture image in insoluble pigmented gelatine on the transfer paper support. Control can be easily exercised by locally pouring warm water over parts which it is desired to lighten. If the print is correctly exposed, development should take about five minutes; if development is found to be tardy, let the print remain in the hot water for some time and then resume the splashing of the hot water over its surface.

When prints are fully developed, the margins protected by the opaque border given the negative should be perfectly clear. The tissue, of course, was of such a size that, when placed in the frame, it extended beyond this safe edge all around. This margin should be wiped with a piece of wet cotton in the early stage of development, as later the pigmented gelatine of the tissue will adhere more firmly and be less easy to remove without injury to the surface of the paper. During all these manipulations one should most scrupulously avoid touching the surface of the tissue with the fingers.

After the print is developed it is immersed in a cold, five per cent solution of common alum for ten to fifteen minutes. This hardens the gelatine and removes all traces of the potassium bichromate. The print is then washed for ten or fifteen minutes, but great care must be taken, as the surface is very tender and easily injured. After washing, the print is hung up to dry.

Overprinted carbon prints can be reduced in the following manner: Put four ounces of chloride of lime in thirty-six ounces of warm water, and allow to settle. Decant carefully the clear solution, and, when cold, take twenty ounces of this liquid and add it to sixty ounces of water. Immerse prints in this solution and, when reduced sufficiently, transfer to a five per cent alum bath, afterward washing and hanging up to dry as usual.

The method described in the foregoing pages is known as the single transfer process, and necessarily entails the reversal, as to right and left, of the picture image. The double transfer process involves another operation, but overcomes this objectionable feature of the single transfer process. In double transfer, a temporary support is employed; and, while this is generally a special waxed paper, matt celluloid or matt opal glass can be used. Both of these last require a previous preparation with a waxing solution to prevent permanent adhesion of the print; this solution consisting of beeswax dissolved in benzine or turpentine. A few drops are poured on the glass or celluloid and gently rubbed over the surface. This waxing requires a little care, as any smeariness or unequal distribution over the surface of such temporary support is inclined to show in the transferred print.

After the print is developed on the temporary support in the same manner as in the single transfer process, it is hung up and permitted to dry, after which it is ready for the final transfer. Cut the final support larger than the print to be transferred and soak it in cold water for half an hour. Then fill a tray with warm water at about one hundred degrees Fahrenheit and immerse the temporary support carrying the picture, face downward, therein. The final support is taken from the cold water, slid under the print in the warm water, and the two brought carefully into contact, avoiding air bubbles. Lift them out together, and place on a sheet of glass and squeegee gently. When in perfect contact, hang up to dry, after which the final support, with the print adhering to it, can be stripped from the temporary one. From this description of both the single and double transfer process, it will be seen that the operations are of the simplest character; and, if conducted with reasonable care, good results are quickly and easily achieved.

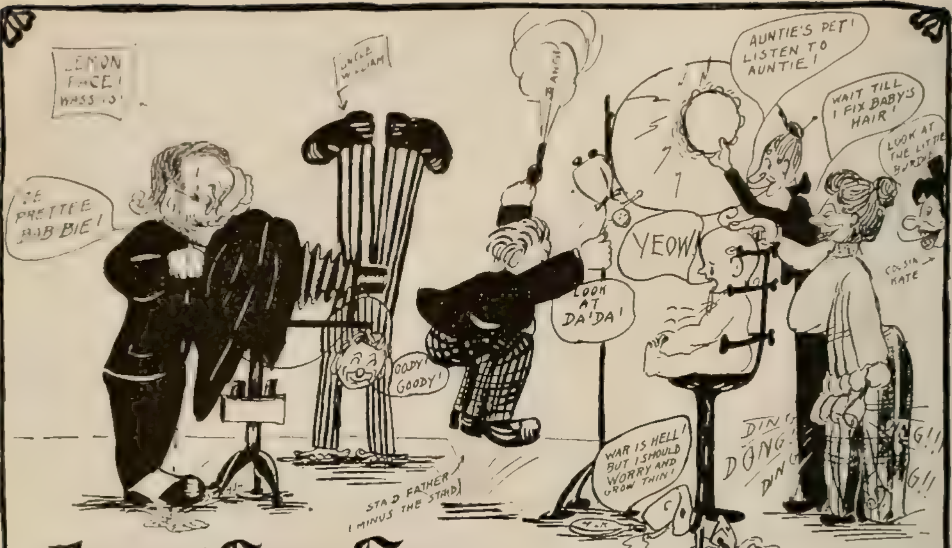
The carbon process is the one most suitable for the making of transparencies, either for window decorations or in the production of enlarged nega-

FRENCH SHRIMP FISHERS WITH THEIR NETS

tives. For this latter purpose they have the advantage of giving an image that is practically grainless. The glass on which transparencies are to be developed must have a preliminary coating of insoluble gelatine, in order to insure adhesion. This is prepared by soaking one-half ounce of Nelson's No. 1 gelatine in twenty ounces of cold water for half an hour, warming until melted, and then adding ten grains of potassium bichromate, finally filtering through muslin. This is flowed over the glass, previously carefully cleaned, allowed to drain, and then dried in a rack. Before using, expose to light so that the coating becomes entirely insoluble by reason of the bichromate therein. Development of the tissue on this support is the same as for ordinary work.

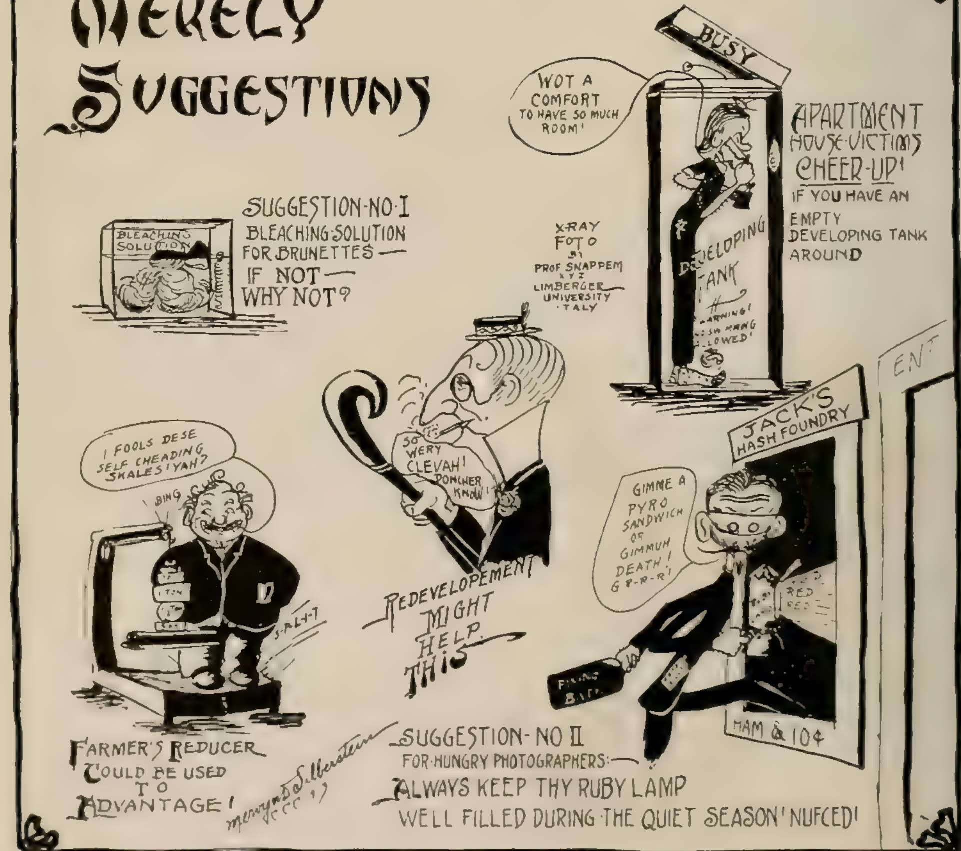
While no instruction alone can make an expert carbon printer, I believe and hope that I have made the way clear for many to become enthusiasts in favor of a process that gives a greater variety of effects than any other, while giving, at the same time, prints of the finest quality obtainable from a negative.

THE LIGHTNING EXPRESS IN ALASKA By W. H. CHURCH


LEMON FACE! WASS IS'
UNCLE WILLIAM
SE PRETTEE BAB-BIE!
BANG!
AUNTIE'S PET! LISTEN TO AUNTIE!
WAIT TILL I FIX BABY'S HAIR!
LOOK AT THE LITTLE BURDIE
COUSIN KATE
YEOW
LOOK AT DA'DA!
GOODY! GOODY!
WAR IS HELL! BUT I SHOULD WORRY AND GROW THIN!
DIN DONG! DING!
STAD FATHER (MINUS THE STAND)

BABY'S FIRST FOTO.

MERELY SUGGESTIONS


BUSY
WOT A COMFORT TO HAVE SO MUCH ROOM!
APARTMENT HOUSE-VICTIMS CHEER-UP!
IF YOU HAVE AN EMPTY DEVELOPING TANK AROUND
DEVELOPING TANK
WARNING! NO SMOKING ALLOWED!
SUGGESTION-NO-I
BLEACHING SOLUTION FOR BRUNETTES — IF NOT — WHY NOT?
BLEACHING SOLUTION
X-RAY FOTO BY PROF SNAPPEM XYZ LIMBERGER UNIVERSITY ITALY
SO WERY CLEVAH! DONCHER KNOW!
REDEVELOPEMENT MIGHT HELP THIS
I FOOLS DESE SELF CHEADING SKALES! YAH?
BING
1 TON
S-A-L-T
FARMER'S REDUCER COULD BE USED TO ADVANTAGE!
JACK'S HASH FOUNDRY
ENT
GIMME A PYRO SANDWICH OR GIMMUH DEATH! G-R-R-R!
RED
FIXING BATH
HAM & 10¢
SUGGESTION- NO II
FOR HUNGRY PHOTOGRAPHERS:—
ALWAYS KEEP THY RUBY LAMP WELL FILLED DURING THE QUIET SEASON! NUFCED!
mervyn D Silberstein

The Panoram Camera

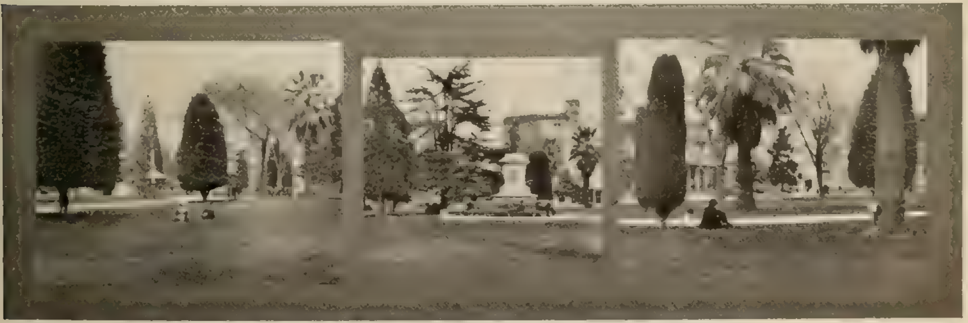
By N. B. Parnell

With Illustrations by the Author

This style of camera, like all styles of special make, has its own characteristics. With its five different angles or width of view, increasing at about thirty-four degrees each or a total of one hundred and seventy degrees for the full swing; with this and its seven variations in time from a snap to one-half second stationary exposure; these, together with its four lens apertures, make it superior to any other type for many subjects. In the hands of a careful operator, many very pleasing pictures as well as photographs of difficult subjects can be obtained.

A PLEASING PANORAMA

Where high waterfalls, tall trees, high cliffs, large groups, and landscapes in which wide areas are desired, the panoram camera has a decided advantage, as it can be used within a few feet of the subject, often quite necessary in confined situations. For example, a high waterfall. In this case the camera is set on end, the lens swinging perpendicularly, making a panel picture. When taking a very large group, place the camera within thirty feet of it, and arrange them



THREE PICTURES FROM ONE PANORAM

in a semicircle of about one hundred and sixty degrees so that each person is about an equal distance from the lens. The result will be a picture that no regular form of camera could produce. To insure a true semicircular line-up ot the people composing the group, it is a good plan to make use of a suitable length of string, attaching one end to the front of the tripod and using the other end to locate the semicircle. Where one-fourth of a second exposure is given, which allows six seconds for the lens to complete its swing, the operator, after pressing the button, may take his place at the end of the line to be last photographed and be included in the group.

In landscapes or in cramped places, it often happens that, in order to balance and properly compose the picture, just a little more in width than the ordinary camera will give us from that viewpoint is needed. In such a case, one must pick up his outfit and move back, perhaps to find that there is then included a post, sign, or some other unsightly obstruction which spoils the composition of the picture. Not so with the panoram camera; with it one knows just what the angle is, has only to wind the film to accommodate it, set swing indicator to stop the lens at the proper point, and get the picture as it is wanted. Frequently I have been able, by judicious use of the trimmer or the enlarging camera, to make as many as four complete pictures from a 7x16 or a 4x12 panoram film, as well as the panorama photograph of the extreme wide-angle view.

THE CONSERVATORY—GOLDEN GATE PARK

Like everything else, the panoram camera has its own field and there are subjects it will not photograph with good results; namely, those in which there are straight lines parallel, yet not on a level, with the swing of the lens. With such a view, undesirable pictures will result on account of the distortion or curving of such lines that should be straight. This can be avoided to some extent, if there is only one such prominent straight line or two or more close together, by placing the camera on a level with them so that the line or lines cut the center of the field of the lens as it swings around in taking the view. By so doing, I have successfully photographed a long, level bridge, getting the chords and floor perfectly straight and level. So, for many reasons, I have a niche in my heart for the panoram camera and know that it would appeal most strongly to many others if they but realized the possibilities it holds for work that the ordinary camera cannot do.

Simplicity is an exact medium between too little and too much.—Sir Joshua Reynolds.

Experience the Best Teacher

By Mrs. M. B. Hitchcock

With Illustrations by the Author

I am so flattered to learn that you, the editor of our Club Annual, think I can take a picture good enough to write about, that I hasten to avail myself of the opportunity for fear that you might, upon second thought, withdraw your invitation.

I am sure that any information that I can give upon the subject of photography will be invaluable, considering the fact that in about ten years of snapshotting I have secured one or two negatives that might be considered, by some kind-hearted friend, fairly good.

"DO NOT WAIT UNTIL HE MAKES A FACE AT YOU"

"A PLEASANT EXPRESSION ADDS SO MUCH TO A PICTURE"

When I have my camera with me, I always snap at everything in sight,—just shut my eyes and fire; but when I see a really good picture, my camera is always at home.

While for some people the dark-room has its attractions, I always have my films developed by a professional; in case anything "develops," I pat myself on the back and think that I know all about picture-making; in case there are two pictures on each film—or none at all—it is nice to have somebody else to blame.

There are two or three points that I have thoroughly tested, and in fact continue to test occasionally, concerning which my advice might be of assistance to some poor, struggling mortal, therefore: After putting film in camera, always turn it to No. 1 before taking your picture; do not set shutter at "Time" and press the bulb once; do not carry your camera when crossing a creek "piggy-back," as you cannot take a successful picture on a wet film; and, in taking a picture of a child, do not wait until he makes a face at you before pressing the bulb—a pleasant expression adds so much to a picture.

If you decide to do your own developing, you should know whether to use pyro, hypo, sal soda or bromo seltzer; any of the Club members will help you out on this subject. And as to prints, I never retouch or spot mine,—they are not worth it.

If there are any further points in the art of photography that you wish demonstrated, they will have my personal attention at the California Camera Club rooms, by appointment.

Some Notes on Bird Photography

By O. J. Heinemann

With Illustrations by the Author

When bird photography is mentioned, the subject at once associates itself with the reflex type of camera and a fast lens. While it is very desirable to have a reflex type of camera and a fast lens, some bird photography can be done with one's ordinary camera fitted with a rapid rectilinear lens if the user will only study his instrument so as to know what it will do for him when the opportunity presents itself.

In one's rambles during vacation time, I am sure that many fine chances to take photographs of birds or nests occur; and, embraced, one's series of photographs will not only have a greater interest, but will give an insight into a new field of usefulness, for one cannot become an enthusiastic lover of nature without becoming an ardent worker for the conservation of wild life.

Inasmuch as this is only an introduction to bird photography, I cannot go too deeply into the subject, but will only endeavor to give some suggestions that may be of value.

In winter or early spring one can make the preliminary experiments at home so that he will be able to overcome difficulties when in the field. If you have a long draw or extension of bellows, you have a greater latitude, as regards size of subjects to be taken, than if you have a camera with a short extension. In order to get your subject as large as possible with a short-draw bellows, extend the lens as far as possible, then move camera towards the subject, using

YOUNG KINGFISHER

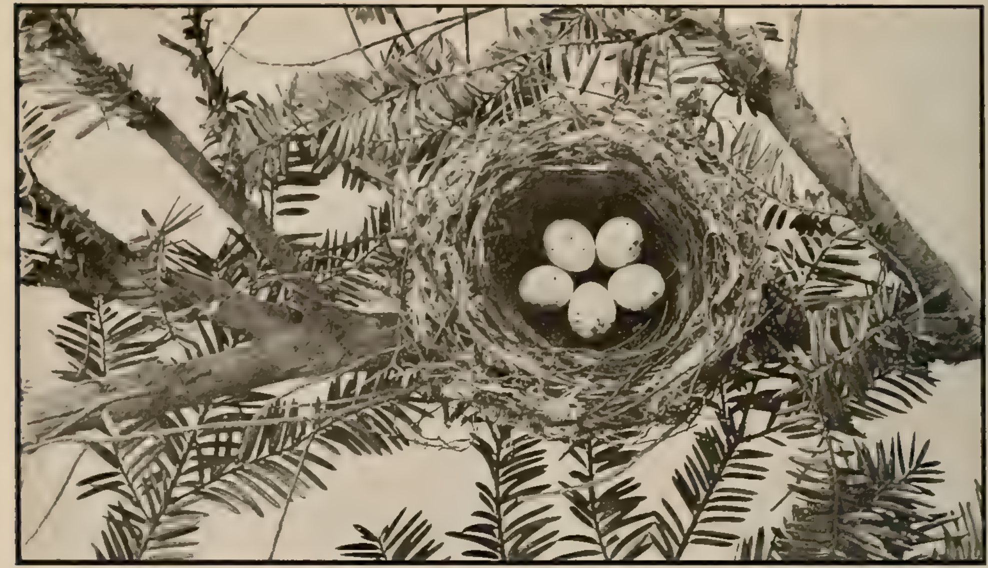
GRAY-CROWNED LEUCOSTICTE

full opening, and when sharply defined on the ground glass, stop. The resulting image on your ground glass will be as large a picture of the subject as can be taken with your camera without using supplementary lenses, such as a portrait lens attachment.

Now stop down to f-16 in case of young birds on a limb or in the nest, in order that you may give as short an exposure as possible, as in the photograph of the young kingfishers. Stop down to f-32 for nests, shading the subject, if possible, by interposing the body between it and the sun in order to get a more evenly lighted picture. In order to make correct exposures and get a little experience, make a nest of some straw and place a couple of hen's eggs in it.

NEST AND EGGS OF BREWERS BLACKBIRD—In old pile at Bijou Wharf, Lake Tahoe, California.

NEST AND EGGS OF SORA RAIL—In marsh near Rowlands, Lake Tahoe, California



NEST AND EGGS OF HERMIT WARBLER

and then get to work. One thing absolutely necessary is a tilting tripod head, or some contrivance which will give a drop view.

Such a contrivance can be made out of a piece of brass rod, six inches long by seven-sixteenths of an inch in diameter, with a hole to take the tripod screw drilled and threaded about one inch from one end, and the other end threaded to fit the tripod socket of the camera, with a couple of lock-nuts put on. First screw the rod into the tripod socket of the camera, run the lock-nuts up against the camera to keep it steady, and then fasten to the tripod by running the regular tripod screw through the hole drilled on the other end of the rod. The camera will then point downwards at right angles to the tripod head, which last should be of wood, as metal ones are too fragile.

Do not be afraid to waste a few plates in learning; it will pay one in the end, many times over. A good, sharp, small negative is to be preferred to a larger one of poor quality. Once started on this work, consult all the books you can find on the subject, and you will be surprised how interesting the subject will become.

One's equipment can be improved upon as he goes along. If one is in need of subjects and does not possess an extended knowledge of bird life, the "small boy" of the immediate neighborhood can point out plenty of nests; and, if one be anxious to secure pictures of birds, and no eggs are found in the nest, he has but to wait a couple of weeks until they are laid.

In case of young birds, one has probably an easier task, as these subjects are practically helpless unless nearly full grown, and one can, with a little patience, secure some very good pictures. Young birds become tired very quickly after being disturbed and are quite willing to be "took." Photographs of birds in flight have to be taken with a fast lens and shutter, but for all nests and many bird subjects, the ordinary lens and shutter will answer all requirements.

Touring With a Hand Camera

By George C. Meeker

With Illustrations by the Author

PEDDLERS ON LIDIO BEACH—VENICE

Certainly no one could enjoy a foreign tour more than an enthusiastic amateur photographer, unless it be an artist or architect, or a student of art or architecture going abroad for study. Having once decided to take a foreign tour, let us do so with the determination to derive all the pleasure and benefit from it that we possibly can. Others have long ago proved that to depend on a stand camera is unwise, as such an outfit is too cumbersome to carry and too inconvenient to use. We must have an outfit that can be used quickly and be conveniently carried, so it must be a hand camera using films, either cut or in rolls, and my own experience leads me to believe that the roll films are the most convenient.

If our tourist is a novice in the use of the hand camera, one of the fixed-focus type will do him good service, and one of the best of the less expensive cameras of this type is the little box camera known as the Bull's-Eye. If one does not care for a more expensive outfit, there is, judging from my own experience, no small camera that will yield a larger proportion of good results and fewer failures in the hands of a novice than this little, inexpensive outfit, if only ordinary care is used to see that the subjects are well lighted. Fixed-focus cameras can also be had in the folding or pocket style, but probably most amateurs will prefer a camera with a focusing scale and one making pictures of an oblong shape. One of the size and style of the No. 3 or 3A Kodak will answer the purpose admirably, and in my judgment will be the best and most convenient, although excellent work may be done with one of the smaller sizes.

My own outfit consisted of a 3A Kodak with the automatic B. & L. shutter and rapid rectilinear lens. If one cares to invest an additional twenty-five dollars or more in a higher grade lens, it might be found a good investment. While with such a lens one ought to get better results under unfavorable conditions, very much depends upon the proper use of the camera. Of course, a carrying case and shoulder strap are needed, and it would be wise to take the case to a harnessmaker and have the spring catch replaced with a stout strap and buckle. A light, tubular tripod was also taken, as I felt it might occasionally be necessary to make time exposures, and a tripod would be sorely missed if left behind. This was provided with a canvas carrying case and shoulder strap so that it could be easily carried when likely to be needed, and at other times it occupied but little space in my suit case. This was expected to complete my outfit, but shortly before starting a friend brought me his No. 1 folding pocket Kodak, urging me to take it, as at times it might be found more convenient to carry and use than my own. It was taken without a carrying case; and, when likely to be used, was carried in the pocket of my rain coat. This is a good little camera, but in using it one should be very careful to have the subject well lighted, for using it under poor conditions of light is simply inviting failure. Still, in spite of limitations and smallness of size, some of the best pictures of my trip are enlargements from negatives made with this little camera.

The next and last item of our outfit is a good supply of roll films. These should be mainly of the ten and twelve exposures, as these occupy no more space than those of six exposures, besides reducing the changing of films about one-half. Films can, of course, be purchased at the Kodak agencies in all the large cities, but it is well to take a good supply along. A few six-exposure rolls will be found convenient when we wish to have them developed for the purpose of determining upon the correctness of our exposures. It is hardly necessary to say more in regard to outfit, as excellent work can be done with any good camera. It is not the outfit we take with us, but the pictures we bring back, that will give pleasure to our friends and ourselves.

If one is not already familiar with the use and working of his camera, he should by all means take time to become so before starting, for no matter how good the camera may be or how fine the lens, neither will do satisfactory work unless given intelligent assistance. The ordinary hand camera can be successfully used nearly everywhere one is likely to go during ordinarily good weather from early forenoon to late afternoon, and under favorable conditions from sunrise to sunset for pictorial effects. But to be able to so use it there are several things that must not be lost sight of and in the doing of which we must use constant care. First of these we may place the selection of our subjects. These should of course be characteristic of the country, records of what we have seen, well selected and worth photographing, but beyond this they should as far as possible have some pictorial interest which will give our pictures artistic value. In the selection of figure studies we should aim not only to have the figures large, but also to have them in unconscious poses.

The focusing must be very carefully looked after. If the camera be one of the fixed-focus type, we need only be carefully that no object comes nearer to it than the distance of its fixed focus, and this is one great advantage this style of camera has for the use of the novice. It is also well suited to the making of figure studies. If, on the other hand, our camera has a focusing scale, we must see that it is properly focused for every exposure, and we must

EVENING ON THE RIVA—VENICE

be able to quickly estimate the distance from it to our subject. Generally speaking, if the indicator be placed at 25 on the scale, it will give good results when photographing street scenes and landscapes with foregrounds, but for more distant objects it may be necessary to set it at 50 or even at 100. For nearer objects, such as groups or single figures, the indicator must be placed at 15, 10 or even extended to 6. All this should be determined by repeated trials before starting and the greatest care should always be taken when focusing upon objects near the camera. We should also be careful to notice, by means of the finder, what objects come in the foreground, and, as a rule, always bring the foreground into focus. This will help to give the effect of distance or atmosphere in our pictures, which is one of the greatest charms of good pictorial work. And we must remember not to allow any object to come between the lens and foreground.

EVENING ON THE GRAND CANAL—VENICE

Next we should take great care to see that our subjects are not only well composed, but that what we wish to show in our pictures is properly included in the finder. To do this nicely and always is not so easy as it might seem, and it is just here that the novice is likely to make his worst mistakes. It would be disappointing to return from a foreign tour, and, upon developing, find some of our best pictures spoiled by mistakes of this kind.

Then we must see that our subjects are always well lighted; not necessarily that they are always in bright sunlight, but that the lights and shadows are pleasing and such as to bring out the subject to the best advantage and also such as will give it pictorial value, for it is pictures we are after, and not ordinary snapshots. We must also be very careful not to allow any direct sunlight to enter the lens. When photographing against the light, we must get the camera into the shade or in some way manage to shade the lens, or else wait until the sun is shaded by passing clouds.

There is one other thing the doing of which is so necessary that it need hardly be mentioned, but which is very easily overlooked and very important. We should make a practice of winding off the exposed film immediately after the exposure is made and before closing the camera. This will not only insure its being done, but will avoid all danger of rubbing the film against the folds of the bellows, which is sometimes the case when the camera is closed. We should also, if possible, make a record of every exposure, and we must always carefully seal, number and label each roll of exposed film as soon as it is taken from the camera.

Now, where may we expect to find good subjects for our cameras? England is perhaps the most interesting country for an American to visit, and it is certainly a good place to begin a foreign tour. Here we are not only among a people speaking our own language, but the country itself is beautiful. Possibly there is no other country where so much beautiful and varied scenery is crowded into so small a space. We may easily travel from the bold headlands, mountains and lakes of Scotland down through the hill country of the eastern coast, stopping at such interesting places as Edinburgh, Melrose, York and Lincoln, with a side trip and coach ride through the Peak country of Derbyshire and the Dukeries of Sherwood Forest, to the plains around Cambridge and Norwich with their windmills and Broads, the Holland of England. From here we may in a few hours cross over to the rugged coast of North Devon and the picturesque fishing towns of Cornwall, and then have made only a good beginning at seeing the beauties of the country.

Then comes France with an entirely different landscape; Belgium with its quaint old towns; Holland with its windmills, canals, boats and picturesque buildings, particularly in Dort and Amsterdam; the Rhine with its castles; Heidelberg and the other interesting towns of southern Germany, as well as the mountains and lakes of Switzerland, all combine to give us an almost unlimited number and variety of subjects.

But when we have entered Italy we are in a country that not only vies with England in interest, but which in many respects is the most interesting country in Europe. But of all the interesting places in Italy, and there are many of them, none will be of greater interest to the enthusiastic amateur than Venice.

BOATS ALONG THE RIVA—"The Sun Chasm of Venice"

Not the Venice that we are familiar with through the medium of the commercial slide, but the Venice of the historian, the poet and the artist. Here we have subjects that are altogether out of the ordinary and which can be found nowhere else. Interesting buildings with beautiful arcades, slender and lofty campaniles and graceful domes often seen against a background of beautiful clouds; the wonderfully interesting life of its canals, lagoons and narrow streets, all heightened by the most wonderful reflections, tend to make Venice a most novel and interesting place.

And so it is all through Europe. Any one of the countries mentioned will furnish us with subjects without number, and the enthusiastic amateur has only to use a little care in the selection of his subjects and in making his exposures to be able to bring back pictures that will be of interest to his friends and himself for years to come.

The Camera Fiend

By The Club Pessimist

The camera is an instrument of torture, invented subsequent to the Spanish Inquisition by some arch fiend whose work, at least, was unfortunately allowed to survive. Today the users of the instrument are called Camera Fiends, in recognition of this first offender. The camera does not inflict bodily torture, but mental, and this last is the most refined kind of torture. There has, as yet, been found no means of affording complete protection from these fiends, and their extermination would be found quite difficult, if not impossible. While hardly as deadly as the mosquito, they are far more numerous.

At Panama they found that it was a small female mosquito which was the most deadly—but let that pass; it must not be considered as an argument against woman suffrage or lady camera users. At Panama the mosquito was exterminated by pouring oil on the troubled waters, but even the Standard Oil Company could hardly supply sufficient oil to exterminate the Camera Fiends. And it would have to be boiling oil, at that; so all that can be done will be to establish neutral zones; places of refuge, as it were, where immunity from their ravages would be assured. The directors of the Panama-Pacific Exposition are trying to make such a haven of refuge of the fair grounds, but whether they will resort to boiling oil, or perhaps only a milder form of discouragement, remains to be seen. The outcome of their efforts to commercialize the activities of these pests will be watched with much interest.

These fiends are equipped with a great variety of cameras. Some are designed to take alleged artistic fuzzy pictures, while others take pictures that are just as pleasing when upside down as when right side up. Some forms of cameras are apparently designed so as not to take any kind of picture but simply use up material. These last are said to be very profitable for the dealers. One particularly effective model of camera has had what might be called a war cry or challenge assigned to it, namely: "Touch the button and the victim will probably do the rest," or something like that.

It is, sad to relate, practically impossible to recognize these fiends; they look like ordinary human beings—sometimes very ordinary. He or she, as the case may be, will stop, apparently to pull out his or her watch, and your picture is taken, probably "A la profile," as the chef would say, or whatever pose may be your most unlovely one.

In the earlier stages of the mental disorder that characterizes the camera fiend, instances have been known of lapses back into sanity, but once the affliction becomes deeply seated, no known serum or antidote has the slightest effect upon it. The eccentricities of the unfortunate victim can only be endured with what grace his friends and relations can extend, such consideration seeming to somewhat lessen the mental disturbance under which the sufferer labors.

Marine Photography

By C. F. Armstrong

With Illustrations by the Author

THE YACHTS ALSO MAKE GOOD PICTURES

To those who use the ferry boats each day in crossing the Bay of San Francisco, there are many chances offered for good pictures. These may be of the kind that appeal so strongly to some people, heavy masses of clouds, indistinct shipping and the like, or they may be groups of shipping and interesting skylines along the water front. Again, single vessels, either at anchor or in motion, are more interesting to some, and such subjects frequently present themselves. It is the last that have interested me most, and perhaps that is the reason I have found the problem of getting satisfactory pictures of them quite easy.

One must first have a good general idea of what is wanted, for a vessel in one position is only suitable for a portrait of that particular ship, while in another it may be made a picture full of life and artistic possibilities. I have found that, as far as positions are concerned, there are but few which are really good. One is that in which the vessel is coming toward the camera at an angle of forty-five degrees or less, and another showing the stern and part of one side. Both these

TORPEDO BOAT DESTROYER HULL Copyrighted 1913 by C. F. Armstrong

should show almost the full length of side, but only in a very foreshortened way. One should not try to get the full length of the vessel, as it generally appears quite flat when so taken. A sailing ship under sail should be taken even further forward of the beam; almost head on, in fact. Yachts are also at their best when taken in that way. Steamers can be taken a little further back, showing more side, and still not look bad, and occasionally a stern view of a sailing ship will come out well.

The color of the subject seems to have a strong influence in the getting of results. Our warships, with their lead-colored paint, are very hard to photograph successfully unless a color-corrected plate is used in connection with a ray filter. While black ships offer little difficulty, white ones are always a little better when a color screen is employed. For this class of work one can use a kodak or any other kind of camera; and, standing on the forward deck of the ferry boat, simply watch for a time when the vibration seems least, avoiding resting it on the rail, where vibration is greatest. Then, using as high a shutter speed as possible, make the exposures. If working from a wharf, one can use less speed or stop down a little more, or both, but still avoiding going too slow; for everything in the subject is in motion,—ship, water and the rest. For a camera of the Graflex type, it requires one two hundred and fiftieth to one three hundred and fiftieth to secure the best results. Most of my own pictures of this kind were taken at about a three-hundredth.

The lighting of the subject is of great importance. I have found that if the light is directly behind the operator the results are not always so pleasing as when the sun is about ninety degrees to the right or left, with the vessel

SUBMARINE H.2 ON SPEED RUN ON SURFACE Copyrighted 1913, by C. F. ARMSTRONG

passing about half of the angle between the camera and the direction of the light. The picture of the submarine boat, H 2, shows the lighting of the subject in this way. The boat was traveling at about sixteen knots an hour and was taken from the stern of a launch in a heavy sea. The spray shows best this way. The torpedo boat destroyer *Hull* was taken a few minutes later and was taken with the opposite lighting, that is, with the sun on the side nearest the camera. Both were taken with a 4x5 Graflex with a Carl Zeiss lens, stopped to f-6.3, the submarine in one two hundred and seventieth of a second and the other in one three hundred and fiftieth of a second.

In developing my plates, I work to get all the details possible and hold any clouds that I may have. I have found that a Glycin developer gives me the best results; the formula is as follows:

A.	Water, hot	10 ounces
	Sodium sulphite	1¼ ounces
	Potassium carbonate	¾ ounce
	Glycin	½ ounce
B.	Carbonate potassium solution to test 55 hydrometer.	

To use, take one-half ounce of A, one ounce of B and one ounce of water. This developer gives fine negatives of good color and I find it well suited to marine work.

To art we go as to a well, athirst,
  And see our shadow 'gainst its mimic skies,
But in its depths must plunge and be immersed
  To clasp the naiad Truth where low she lies.

—William Watson.

The Railroad and Photography

By H. N. Krenkel

With an Illustration by the Author

Few persons who travel by rail realize that photography plays an important part in the development and maintenance of a railroad. Nearly every time-table or folder, of any road, that one may happen to pick up, contains quite a number of pictures of scenery and trackage on that particular road. They are placed there to advertise the road, to show its beauties and its safety. Take, for instance, the Southern Pacific. Look at the beautiful pictures their folder of Yosemite Valley contains. Or pick up one of Lake Tahoe, Feather River Canyon, Royal Gorge, Yellowstone, or Grand Canyon. They all contain the best pictures that photographers could take. Another folder or book worth mentioning is "California for the Tourist," issued by the Southern Pacific. It contains pictures of all the scenery and cities on their whole lines. Nine people out of ten will read a folder containing pictures when they would rarely glance over one without.

The pictures give an idea of what the places and their surroundings look like. They advertise the beauty and the service that the road offers. To get all these pictures the road employs none but the best photographers obtainable, caring little for the expense, as it is all paid back by the increased travel which is produced through these methods. Each road has its corps of experienced men; and when they are sent, or set out themselves, for a picture or pictures, their only object it to get it and get a good one. Every piece of scenery is explored and the question asked, "Will it attract the public?" If so, then they take it. All the negatives must be good, as they are sometimes enlarged to ten times their original size. Each station, mountain, curve of track, etc., is closely observed. Nothing is overlooked. And in the end a beautiful folder is issued containing the selected pictures, or they are enlarged and put in hotels, steamers, stations or offices, with an inscription reading: "On the Line of the ——— Railroad."

Photography also plays an important part in the maintenance of a railroad. Here it is an important feature. Shops, machinery, cars, engines, and such, must be frequently photographed. In case of a wreck, a photographer is immediately sent to get a set of views from as many points as possible, these to be used in the investigation to follow, or as evidence in case there are suits against the company. Sometimes as many as forty views are taken of a single wreck. In case of a boiler explosion or shop accident, there is always a photographer on hand. He may be only an office man or shop man who is employed elsewhere, but he is sent for and gets the views desired. In large shops they have their regular men, but in small shops he is generally one of the mechanics.

SOUTHERN PACIFIC DEPOT AND SHOPS, SACRAMENTO—January, 1913, sunny, 7 a. m., stop U. S. 8, Eastman film, one-fifth second exposure.

I remember a case not long ago, in which, during the night, a stanchion holding up the second floor of a shop, split and broke, letting the floor above fall. The only thing that saved it was a car. The floor fell about two feet, on top of a mail car, which held it up until a new post was placed underneath. Six flashlight pictures were immediately taken of the accident. Soon afterward all posts were examined, and new ones put in where they were needed. Another happening occurred in the paint shop. A switch engine ran into a car and broke open several hundred cans of paint, that quickly dyed the ground in many colors. The engine and car were left the way they were found, a "picture man" hurried to the spot and took views of the scene taken to be used when needed.

Nearly every railroad can show a set of views for every accident that has occurred on its line or in its shops. There are also sets showing machinery, engines, boilers, shops, interiors of stations, shops or offices, and many minor things, such as broken axles or wheels, broken rails, broken pipes, etc., burned trestles, bridges, or washouts. Photography is on the spot in all those cases. One can see what an important person the photographer is to the railroad, and the same may be said of steamships, reclamation corporations, contractors, etc. He is practically indispensable in nearly every line of business or enterprise.

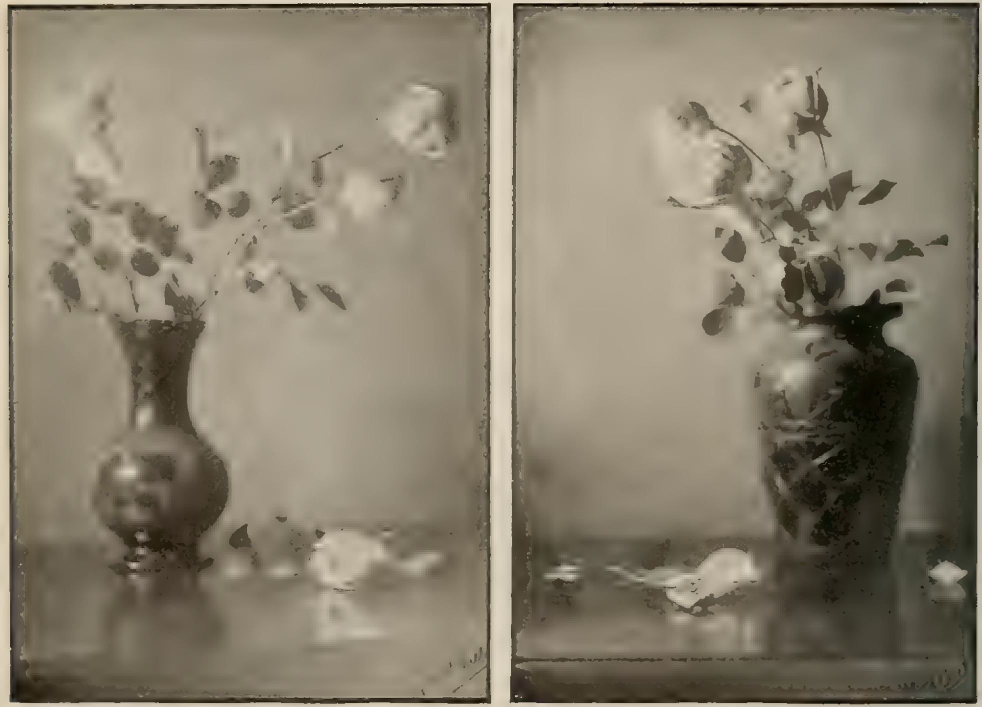
"As a man magnifies the meaning of life, as individualism expands to altruism, as national grows to universal, so do the ideals of an art change. And today that art which permits within its precincts not only the artist but also the honest artisan, will grow as surely and strongly as the people in which it takes root."—Geraldine Lermit and Mary Wood Himan.

Flower Photography

By Mrs. C. B. Fletcher

With Illustrations by the Author

Flowers furnish as interesting and varying a subject as any to be found. When one stops to consider in how many different ways he can photograph one rose; for instance, varying according to the angle from which the light strikes the petals, and with the many different positions possible in placing the flower before the camera, yet all can be made artistic if care is given. I have never had all the time I wanted to devote to this fascinating branch of photography, but the little I have done has seemed so easy and satisfying that I could, were it available, spend a great deal of time portraying these charmingly plastic subjects.



FLOWERS ARE, TO ME, THE MOST PLEASING SUBJECTS

As for the methods employed, it is obviously a little difficult to give the time of exposure, as that of course depends upon the light; but I find that by placing the flower in a good light near a window, with some illumination falling a little from one side toward the front, and also somewhat from above, using f-8, from four to ten seconds, according to the time of day and strength of light, gives me the best results. I use a slow, soft-working developer, considerably diluted, and a soft grade of paper for printing, sometimes diffusing to get extra softness. I use orthochromatic plates, but no ray screen.

The jar with the roses was what remained of a beautiful bouquet, an anniversary gift, of which I was anxious to preserve a souvenir. It so happened that I was not able to photograph them during the day, and at night I found the petals had dropped from a great many of the flowers. Realizing that I would not be able to get them at all if I waited until the next day, I experimented by using electric light and giving a good two minutes' exposure.

Flowers are, to me, the most pleasing subjects; and, aside from the pleasure of the work itself, I find the pictures are excellent for mounting on calendars; and, by so arranging them that a space is left for printing in suitable mottoes, very original gift cards are produced.

"CHARMINGLY PLASTIC SUBJECTS"

"A SPACE IS LEFT FOR PRINTING"

No man can make a success of any work if he cannot become enthusiastic about it; and you cannot become enthusiastic unless you like your work. Enthusiasm is necessary to make a success of it.

No man does so well as he might do if he is working at one thing and wishes he was doing something else. Study the work you are doing. Find out if you are doing it the right way. Try and discover a better way of doing it.

As soon as a man gets it through his head that there is a right way and a wrong way to every job, that man has taken the first step toward making his job interesting.—John M. Brock.

The Universal Lens—What Is It?

By Theodore E. Westlake

Every photographer, amateur or professional, novice or expert, impressionist or old school detailist, wants a lens that is as nearly as possible adapted to each and all of his different requirements—what the photographic advertisements call a "universal lens."

"Universal," of course, is a big word. "General" would be better English and nearer truth, for the only lenses which have a right to be called "universal" are those monster objectives mounted in the world's great telescopes and actually used for inter-planetary or universal research. But, as custom has christened those lenses which serve the most varied needs "universal," suppose we let it go at that. Let us examine into the matter of cardinal photographic needs and then try to discover how nearly the so-called "universal" lenses meet such needs.

The demands that a photographer makes on his instruments are a matter of quality rather than quantity. They are as exacting, however, as they are few, and to combine in one lens the properties that will meet them all has been deemed impossible.

For instance, the two great requirements, speed and definition, have seemed irreconcilable. Every photographer knows that the smaller the aperture used, the greater will be the definition as well as depth of focus—and by the same token, alas! the less will be the speed. So here is the problem: Ordinarily, if you open a lens wide in order to get great illumination, it will not cut sharply, and even if you succeed in correcting it so delicately that it cuts sharply in one place or at one distance from the lens, everything a little closer or a little farther away will be blurred.

Then, again, we had the convertible and symmetrical lenses, which gave us, as it were, three lenses in one, for each of the single objectives had a different focal length from the other and from the combination of the two.

This quality we attained with the introduction of the rapid rectilinear and retained in a slightly improved form with the anastigmats, until the latter were "speeded up" to such an extent that the convertible quality had to be sacrificed. The demand for "action" pictures, for home portraiture and a lot of other things which required the maximum illumination, resulted in a number of fast lenses which were absolutely worthless for any other purpose but speed work. The combinations would not work separately, so there was only one focal length possible, and you could not use the lens for wide-angle work because it barely covered the plate for which it was listed. Sometimes it did not do that.

As a result, the average photographer had to carry with him at least three different lenses: a fast lens for speed photography, a slower lens of the convertible type for ordinary work, requiring greater definition, varying focal lengths, etc., and a wide-angle lens for interiors and other confined situations.

All of these lenses were expensive and, even if you had the money to pay for them, they were bulky and troublesome to change more or less constantly, especially in the case of newspaper photographers, who have to work quickly and with whom time and convenience are at a high premium.

So the optical experts set about to find a "universal lens." They took the old f-7.7 anastigmat and speeded it up to f-6.8, still retaining its definition and a great deal of the covering power as well as the convertible feature. That helped somewhat, and after a time they achieved a speed of f-5.8. In doing this they lost some definition and a great deal of covering power, but they more than made up for this by the increase in price—and the "universal lens" was born. Not many of the f-5.6 lenses were sold, because they did not prove the "happy medium" it was hoped to make them. Several lens manufacturers, indeed, ceased to list them. But they did not stop advertising "universal lenses." The name survived, even if the original bearer of it did not; and now we have on the market a host of excellent anastigmats with a speed of f-6.8, advertised as "universal."

When one analyzes this claim, it is a good deal like advertising a horse with only three legs as sound and complete. Speed is as much an essential of modern photography as the fourth leg of a horse. Fortunately, however, opticians have discovered that the seemingly impossible is possible after all. The cemented type of lens with its great covering power, freedom from flare, superior achromatic effects and convertible quality has at last been speeded up to the f-4.5 securing something in the nature of lens universalism. The German opticians, Schultz and Billerbeck, were the first to discover and put on the market this valuable improvement in photographic optics, which gives one nearly all that is desired, for it embraces in one instrument the following: An ultra-speed anastigmat, a moderately telephotographic lens, an excellent wide-angle lens, a high-grade general lens. Of course, the problem of reconciling high speed with depth of focus remains. But many photographers have solved it for themselves by using short-focus objectives and making enlargements therefrom.

Thus, one may claim for the present day a high degree of lens "universalism," and one has to thank the clever Germans for another thing,—simplicity of construction, which makes for smaller cost. Few of us are so well-to-do as to regard this quality with indifference.

The speed craze goes on, and f-4.5 will soon be a back number. Already a foreign house is putting out a lens working at f-3.1 for general use, and there is on the market a moving-picture objective with the almost unheard-of speed of f-1.9, though the makers of these two types have the decency not to advertise them as "universal."

Bye and bye, it is possible that we may have "universal lenses" at even greater speeds; and, in the meantime, we have at least one approximately "universal" type of anastigmat.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

LOADING HOLDERS ON TOUR: When loading plate holders during a trip or when otherwise so situated that a dark-room light is not available, a charring cotton string offers a safe and convenient substitute. Suspended from some convenient point and then lighted, it will burn with a smoldering effect for quite a period.—J. P. Ziffi, C. C. C.

WASHING ROLL FILMS: Films may be easily washed at home by running about eight inches of water into the bath tub, then pinning them by the edge to the side of a smooth lath or other piece of wood, and floating this arrangement in the water for about half an hour. This will completely wash a film, and the convenience of the method will appeal.—G. C. Spaeth, C. C. C.

QUICK PRINTS: Should you want to finish a print in a hurry, you may save the time it usually takes to wash out the hypo by, after fixing, rinsing the print one or two minutes, then soaking for three minutes in a five per cent solution of barium chloride. Rinse well, rub surface gently with wet cotton, and lay out to dry. The solution may be used many times. The action is to break up the sodium thiosulphate (hypo), the sodium combining with the chloride to form common salt, and the sulphate with the barium to forbarium sulphate, both quite harmless.—Benjamin Byron, C. C. C.

WASHING FILMS AND FILM PACKS: An ordinary cork split through its center along the axis and then cut away at top for leverage, leaving a V-shaped opening, as shown in the sketch herewith, needs only the addition of a rubber band to form an ideal float. This will open by a slight pinch of the fingers, allowing the film to be inserted in the "jaws" of the cut; and, attached to the edge of a film or film pack, it will keep it afloat in a vertical position while washing.—A. B. McKinna, California Camera Club.

A SELECTIVE REDUCER: This selective negative reducer acts similarly to ammonium persulphate, but is cheaper and gives a clearer negative. The densest parts are reduced first, and afterwards the half tones.

Potassium permanganate	10 grains
Sulphuric acid, C. P.	10 drops
Water	20 ounces

Soak negative a short time in cold water, and then transfer to above. Rock dish. Just before the dense parts are reduced enough, transfer negative to a one per cent aqueous solution of oxalic acid for a few minutes to discharge the color. Wash reduced negative for a short time in running water. This reducer can be used till exhausted. It is also a good reducer for bromide prints.—S. N. Purnell, C. C. C.

USING SPOILED PLATES: Good use can be made of spoiled plates by first fixing and washing them, provided they have not been exposed, or if a negative, first taking out the silver by completely reducing with Farmer's or some other reducer, thus securing a clear, gelatin-coated glass. On this squeegee a print face down, so as to be in optical contact. Blot off superfluous moisture and let dry. Afterwards you may passe partout with cardboard back of it. The advantage is a greater absence of reflections from the glass.—G. C. Spaeth, C. C. C.

QUICK DEVELOPMENT OF PLATES: Make up the two following solutions:

No. 1:	Metol	75	grains
	Hydroquinone	75	grains
	Sodium sulphite, dry	3¾	ounces
	Water	35	ounces
No. 2:	Potassium carbonate, dry	3¾	ounces
	Water	35	ounces

When ready to develop, pour solution No. 1 over the plate and rock for thirty seconds; then, without washing, put the plate in solution No. 2 for thirty seconds. Remove, wash quickly, and put in hypo bath. This looks like rather quick work, but a first trial will be sufficient to prove that it gives an excellent negative. Solution No. 1 can be used repeatedly, but solution No. 2 should be mixed fresh quite often.—L. A. Goetz, C. C. C.

NOTES ON NIGHT SCENES: As with all architectural subjects, a swing-back is absolutely essential, as the plate must be kept vertical to show the lines of buildings upright and parallel. Personally, I never find need for a level on my camera, as I can always get the back vertical by sighting the corner of a building, and by seeing that the side of the focusing screen is parallel with the side of another building, or with the side of the object itself. A focusing hood embracing a plush-covered eye-piece and the necessary stiffening wires is vastly

FERRY BUILDING FROM THE BAY

FROM MARKET STREET SIDE

superior to a clumsy cloth thrown over the head, particularly as the ever-present small boy delights in occasionally shouting, "Look out! Mister," in your ear, perhaps scaring away your taste for night work in a busy street. As to exposure, ten to fifteen minutes is nearly always required at the U. S. 32 or f-64 that will generally be used in order to get the top of tall buildings sharp on the plate, as less exposure will fail to record the walls or windows so necessary to pleasing portrayal of the illuminated building, a portrayal showing the scene as the ever-changing pupil of the eye records it. With wet pavements, the reflections give the picture its greatest beauty, but of course we cannot always be out just after a rain. For printing, a semi-glossy paper is most generally preferable.—E. I. Titlow, C. C. C.

SEPIA TONES: Fine sepia tones may be secured on bromide and gaslight papers by using the following solution:

Water, boiling	1 gallon
Hypo	16 ounces
Alum, common	4 ounces

When cold, add separately, and with stirring, solutions Nos. 1 and 2 below:

No. 1:	Silver nitrate	60 grains
	Water	1 ounce
No. 2:	Salt, table	60 grains
	Water	1 ounce

Immerse prints in this bath, cold, and heat to one hundred and twenty degrees Fahrenheit. Prints will tone in about twenty minutes to a beautiful and true sepia color. The bath can be used many times.—L. A. Goetz, C. C. C.

STUDIO—CALIFORNIA CAMERA CLUB

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

Vol. XXI San Francisco, California, February, 1914 No. 2

To Explain

When, a few months ago, the California Camera Club arranged with Mr. Clute, editor and proprietor of CAMERA CRAFT, to publish an issue of the magazine in which all the articles and pictures should be furnished by its members, and which should in effect be the Club's Second Annual, the undersigned was appointed temporary "Editor-in-Chief" to supervise the work.

Despite some discouragements, the work has been successfully accomplished. The result is before our readers. I believe that this unique issue of a regular magazine will awaken world-wide interest, promote the cause of photography, and will receive the commendations to which it is entitled.

Your temporary "Editor-in-Chief" desires to thank, most sincerely, the members who have come forward so generously with the work of their cameras and their pens. Almost double the necessary amount of material has been placed at his disposal; and, as the publisher objects to any deviation from the regular size of this magazine, some excellent articles and pictures will have to be held over for future regular issues. The material used herein has not been selected as the best of that contributed, but as those portions giving the greatest variety to the pages, as a whole, of this, the California Camera Club's Second Annual.
—S. N. PURNELL.

The California Camera Club

This Club, located at San Francisco, is the largest and most successful in the United States, and with one exception is the largest in the world. For more than twenty years it has occupied a foremost place in teaching photography, in developing photographic processes, and in furthering our art-science. From the ranks of its amateurs have gone forth many professionals who have become eminent and prosperous. It welcomes and instructs the beginner no less than it encourages and improves the advanced worker. It is an educational and social organization as well as one for the stimulation and inspiration of all who enjoy and practice photography.

By the intelligence and devotion of its officers and members it has been wisely managed from year to year. It has survived every vicissitude, including the total destruction of all its property in the great disaster of 1906, and is now in better condition than ever, fitted with every device and convenience, including a complete portrait gallery, necessary to successfully produce all kinds of photographic work.

It has given more than two hundred and seventy-five monthly illustrated lectures, in large halls, to delighted audiences. No admission charge is made, attendance being invitational. These lectures have been of great value to the

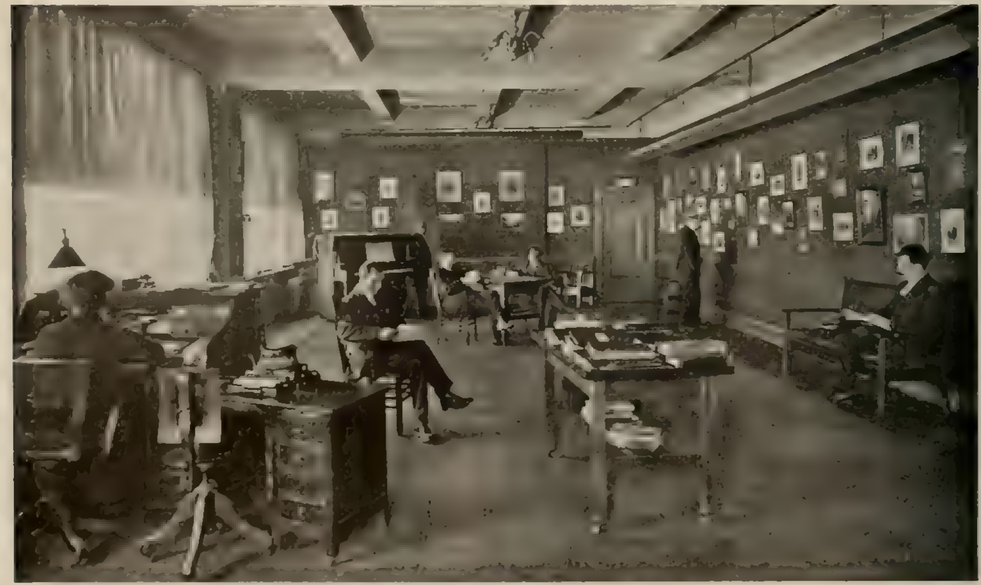
Club in increasing its membership and in sustaining the interest of its members and of the public by fostering the love of photography and art.

Each month two or more demonstrations of technical processes, or of addresses on photographic art, are given in the club rooms to active members. During the pleasant portion of the year, attractive outings are given monthly. These not only afford opportunities to procure pictures, but lead to increased acquaintanceship and sociability. Once a month there is an exhibition of lantern slides, the Club being a member of the Lantern Slide Interchange. There is a monthly exhibit of prints, the work of its members, on the Club's walls. The two pictures here reproduced show part of the assembly room containing an exhibit of prints, and a view of the portrait gallery.

The membership is and always has been large and enthusiastic. All who are interested in photography, whether beginners or advanced workers, both men and women, if socially acceptable, may become members. Realizing that such an organization as well as an individual needs diversion, its social activities, in respect to dances, receptions, celebrations, etc., have been large, and will be fostered and increased.

The noteworthy and honorable career of the California Camera Club shows no signs of abatement. Important changes have recently been made in its by-laws, and these will give it more income, enabling its officers to add to its facilities and introduce improved methods, and augment its membership and its usefulness. It may be confidently anticipated that the Club will reach a still higher efficiency and long continue a leading factor in the teaching and advancement of photographic science and art.

A mirror and a camera are the two things in this deceitful world that unflinchingly tell the truth.—The Club Pessimist.



RECEPTION ROOM—CALIFORNIA CAMERA CLUB

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Photographs by Invisible Light

At both ends of the spectrum there are radiations which it is convenient to call "light," although they do not excite any sensation in our eyes. They manifest themselves in various way, and it is perfectly possible to photograph by means of them, as has already been pointed out. No one has done more work in this direction than Professor R. W. Wood, and, in a long and well-illustrated article in the *Scientific American,* he describes some of his latest experiments and their results.

This "invisible light" may be regarded as of two kinds. There are the rays which lie beyond the violet, rays to which the ordinary plates used in photography are extremely sensitive, and there are those which lie beyond the red, for which a plate has to be specially orthochromatised, and that with some difficulty. The ultra-violet rays are almost entirely stopped by glass, so that a glass lens cannot be used with them; the infra-red rays pass through glass readily enough.

One of the best screens for cutting off all light except the ultra-violet is formed of a thin film of silver. Any one who has deposited silver knows that an exceedingly thin film, on being held up to a bright light and looked through, appears of a deep blue color. A thicker film is quite opaque to the eye, but transmits ultra-violet light freely enough. A quartz lens may be used, as, unlike glass, quartz is transparent to these radiations; and a very thin film of metallic silver may then be deposited on each side of the quartz to neutralize the effect of any pinholes in the silver.

Photographs obtained with such an arrangement have very remarkable characteristics. Glass, we have seen, is opaque to such rays; and photographs of a microscope under a glass shade are reproduced. One is taken in the ordinary way and shows the microscope clearly enough, the glass shade throwing only the feeblest shadow on the background; the other, by ultra-violet light, shows the glass shade as opaque as if it were made of ebony, and casting a solid black shadow. White flowers are not all alike under this illumination, some coming out a dead black, others much lighter in tone, although the eye could observe no difference.

Professor Wood was anxious to obtain celestial photographs by these radiations; to compare, for example, the appearance of the surface of the moon as photographed by ordinary and by ultra-violet light. For this purpose he proposed to use a reflecting telescope; but the mirror of silver on glass was of no service for the purpose, as silver reflects hardly any ultra-violet light. A series of experiments were made, with the result that nickel was selected for the reflecting surface, and already some very interesting lunar photographs have been obtained, from which there seems to be some reason to suppose that there are fine deposits of sulphur about some of the lunar craters. As it is an open question whether these craters are of volcanic origin or not, such a discovery is an important piece of evidence.

Another series of most remarkable photographs with ultra-violet light are those of the vapor of mercury. It is well known that mercury at ordinary temperatures gives off minute traces of vapor, far too slight to reveal themselves to any analytical method, but enough to affect the health of those who had to inhale them. By using the light of a mercury-vapor lamp with a quartz bulb, so as to emit as much ultra-violet light as possible, photographs are obtained in which the vapor is plainly visible as a black cloud ascending from the surface of mercury in a dish, or filling the interior of a vessel on the bottom of which a minute drop of the metal is lying. The dilution of the mercury vapor, although it is thus distinctly photographable, is estimated to be one part to about eight hundred thousand parts of air.

In the case of photographs taken with light from beyond the other end of the visible spectrum, a fresh series of phenomena manifest themselves. The effects in landscape are the most extraordinary. The sky, if a clear blue, comes out black, green foliage appears white, and all aerial perspective vanishes. Distant objects are as clear and their contrasts as strong as near ones. As with this light the scattering effects of atmosphere are largely eliminated, it is possible that photographs of those planets which are known or suspected to possess atmospheres may give information that has not hitherto been obtained.

There is nothing very involved about the making of photographs by the infra-red rays, and any one who has a glass cell for a liquid light filter should find it quite simple. The liquid to be used is a saturated solution of potassium bichromate, to which a strong solution of cyanine is added until the color of the transmitted light is a very dark blood red. "The screen can be tested by looking at sunlight foliage against a dark blue sky, covering the head entirely with a black cloth to cut off all rays except those which come through the screen. The leaves should appear much brighter than the sky, and, if they do not, more cyanine must be added." Only a strongly red-sensitive plate is of any use with such a screen; Professor Wood suggests the Wratten as suitable, and mentions exposures of three to five minutes with f-8 as a guide.—*Photography and Focus.*

Hints on the Preservation of Light Filters or Color Screens

Color screens or light filters for use with orthochromatic plates are generally made of film of gelatine or collodion dyed with suitable coloring matter and cemented with Canada balsam between glass for protection. At one time there were a good many screens of yellow glass in use; but owing to the fact that for an equal degree of color correction they necessitated a greater increase in exposure than was the case with the dyed film screens they have now gone out of favor.

The protection of the glass itself from physical injury is an obvious enough precaution; but a word or two on another form of protection which is important in the case of many screens may be useful.

Some of the dyes used for screen making are very permanent. This is the case with the well-known "Filter Yellow K," which, on other grounds also, is particularly suitable for this work; and a color screen made with "Filter Yellow K" need have no special precautions taken on the score of fading. But this permanence is by no means inherent in all color screens. There have been many made with other dyes, some before the "Filter Yellow K" came into general use, others of colors for which it is unsuitable. Such screens may or may not be permanent. The photographer will be well advised in the absence of any definite knowledge of the nature of the dyes used in his own particular screen, to assume that it is not permanent; and whenever it is not in actual use, to protect it from light by returning it to its case.

This should always be done with the Autochrome color screen. If left lying about for some time in a strong light, it undergoes a change which results in the colors of the picture being falsified. With ordinary care not to expose it unnecessarily it will remain unaltered for years.—C. O. H. in *Photography.*

Filters and Flare Spots

In a recent article in the *British Journal of Photography,* on the use of filters, there appear the following remarks, which may account for some of our puzzling failures:

"So far it may appear that the arguments for and against the front or back positions are fairly equal, provided that the latter position is near the lens, but it is here necessary to point out one very grave defect in the front position. A great deal of the light that reaches a photographic lens plays no part in the formation of the image proper, owing to the numerous reflecting surfaces which exist in the lens. Some of this reflected light finds its way eventually to the plate and produces either fog or flare spot. The majority of the reflected light, however, is thrown back out of the lens, and is simply lost, never reaching the plate at all, and therefore doing no harm. If, however, a filter is put in front of the lens, some of the light that would otherwise be lost is turned back into the lens and reaches the plate, giving either fog or 'filter flare.' We may have very serious effects of flare introduced by the front filter. A filter behind the lens is not only guiltless of any such effect, but it also turns back and out through the lens some of the reflected light that would otherwise reach the plate, and it therefore follows that a position behind the lens is distinctly better. The filter is also better protected in this place, and if a behind-lens shutter is used an ideal place for the filter can be arranged in the front of the shutter, where the filter is protected by the lens on one side and by the shutter on the other. On the other hand, with ordinary cameras it is not very easy to change the filter when it is used behind the lens. This is, however, a minor disadvantage, and one readily dealt with by a modification of the ordinary camera design."

The Best Focusing Screen

Many recipes for making focusing screens are advocated from time to time, either as temporary substitutes for a broken screen or as improvements on ground glass, which, at its best, is by no means a very satisfactory material. The best of all screens is, however, very seldom mentioned, though it is one of the easiest to make, and certainly the most satisfactory in use. We refer to the silver iodide screen, which is the only kind we have used for many years, and the only one that has proved to be thoroughly satisfactory in all respects.

The manufacture of these screens is the simplest possible operation. Take any ordinary (non-ortho') plate and fog it slightly all over. Some plates will fog uniformly all over if simply immersed unexposed in a developer. Others, while they will fog readily enough, will not do so uniformly, and in general it is best very slightly to expose the plate and develop it with a stainless developer such as amidol. A light gray uniform veil is all that is wanted, and it is best to treat two or three plates for different times, so as to get varying amounts of fog. When finished we can then select the result which is best for our purpose.

When fixed and washed, the plate is put into a solution of iodine in potassium iodide until the veil is turned into silver iodide. It is then immersed in dilute ammonia, which clears out all iodine stain and leaves an almost white deposit. The bleached plate is washed for a short time, dried, and tried in the camera. If satisfactory, it is then as well to varnish it, so as to protect the gelatine from damp and damage, celluloid varnish being perhaps the best to use.

The density of a screen made in this way, of course, depends partly on the exposure and partly on the development. It is, we think, best to rely mainly on the latter, giving an extremely brief exposure, and varying the time of development to get different densities. The fineness of the grain depends mainly on the emulsion; therefore, for the finest possible grain we use a Wratten lantern plate, which has the peculiarity of being coated with a bromide (not chloride) emulsion which is practically grainless. Such a screen, if of suitable density, will be admirably adapted to the same stringent requirements of the photo-micrographer, but it is a little finer than is necessary for ordinary camera work. For a copying camera used indoors any ordinary process plate will give an excellent screen, while for ordinary outdoor work any fast ordinary plate will give a screen that is admirably adapted to general purposes. Though the coarsest of the three varieties mentioned, it is very much finer than the best ground glass, and if of suitable density enables us to focus fine detail with the utmost readiness.

If the screens are required to be marked, they can be ruled with scratches made by the point of a fine needle or the edge of a very sharp knife. This marking should be done before varnishing. Though much more transparent than ground glass, these iodide screens enable one to focus without a magnifier, and the image is so bright that in a shady position we can dispense with a focusing cloth. With a cloth and magnifier it is easy to secure very critical definition in circumstances that render focusing a very difficult task with ground glass. In course of time the screens assume a yellowish color, but this is no disadvantage, and does not in any way hinder the operation of focusing. The screens we have in use now were made over ten years ago, and are still perfect and just as efficient as when new.—*British Journal of Photography.*

Artificial Daylight

Those who have to do color matching by artificial light will be interested in the remarks of T. Thorne Baker in the course of a conference of manufacturers held the other day at the National Gas Exhibition. Mr. Baker stated that, from the point of view of color matching, incandescent gas is not far from being a perfect illumination, and that it can with little difficulty be so screened as to give an illumination comparable with daylight, and suitable for the fairly accurate comparison of colors. The spectrum of the incandescent gas mantle is very even, only the blue-violet being deficient and the apple-green prominent. The blue-violet can be enhanced by means of a blue-violet dye in the filter, and the green rays subdued partly by means of this dye and partly by means of a suitable red dye. One method of obtaining artificial daylight suitable for use on an extended scale, said Mr. Baker, was to have the lamp placed fairly high up, near the ceiling, and large opal or enamel white reflectors placed beneath, so that the room illumination was reflected downwards. The ceiling, instead of being white, must be painted or distempered with the requisite color to function as an absorption filter.—*Amateur Photographer.*

Pigmenting Gelatino-Bromide Prints

A recent communication to the Société Française de Photographie deals with the pigmenting of prints on gelatino-bromide papers. In the author's procedure, the developed print is immersed, before or after fixing, in the following solution, which is said to give better results than any formulæ previously indicated.

Chromic acid, 10 per cent solution	20 parts
Potassium bromide, 10 per cent solution	180 parts
Copper sulphate, 10 per cent solution	300 parts
Water	500 parts

When the image has disappeared in the bath, the print is washed for several minutes, then placed for ten minutes in a bath of hyposulphite of soda, twenty-five per cent, washed thoroughly, and dried. This hyposulphite bath should be employed even for prints previously fixed. Before proceeding to apply the ink or pigment, the print is wetted in water for a quarter of an hour or more, according to the quality of the paper. The inking is done as in the oil process. It is added that old prints in gelatino-bromide of silver may be utilized.

Exposures for Night Subjects

The element of precision can never attach to any exposure table—and this is, perhaps, a blessing!—but in the case of night photography an exposure table of any sort is almost out of the question. Nevertheless, it is of some interest to have in tabular form the relations between different night subjects and between different stops duly set forth. We take this list from a German publication, *Photographie für Alle:*

	F-8
Shop windows, well lighted inside	1 min.
Shop windows, lighted outside only	2 min.
Corners of streets, well lighted	8 min.
Streets taken laterally	16 min.
Open places, well lighted	12 min.
Illuminations, decorations, etc	6 min.
Bright moonlight scenes	30 min.

So far as the street scenes are concerned, the figures may be reduced by fifty per cent or more when the pavements are wet and reflect the light. The computations are based on the Warnerke and Scheiner sensitometers, the latter of which has come much into favor in Germany of recent years; but they appear applicable to our ordinary fast plates of about 200 to 300 H. and D.—*Amateur Photography.*

Uranium Toning

Toning with uranium, notwithstanding its beautiful tints, is scarcely practiced by reason of the unpermanency of the colors. A recent discussion in the pages of the *British Journal of Photography* leads to a hope of better things. It is stated by Herr A. Lux that, providing the print be thoroughly washed before toning, washed and fixed in weak acid hypo for five minutes thereafter, and again well washed, permanency will result. The acid hypo he uses is made up as follows:

Hypo	25 grammes
Potassium metabisulphite	8 grammes
Water	1,000 c. c.

The Toning of Printing-Out Paper

Professor E. Valente reviews this subject in an article in the *Photographische Correspondenz* and contributes a new formula, with which excellent results are readily obtained. The formula for the stock solution is:

Citric acid	17 grams
Metol	4 grams
Hydroquinone	6 grams
Water	1,000 c. c.

This is diluted one in ten to one in twenty-five according to character of print required. The paper used should not have been exposed to light before printing. Development is effected in weak daylight, or better, gaslight, transferred direct to a salt bath, washed, toned and fixed as usual.

Self-Portraiture

A. W. H. Weston, writing in the *Amateur Photographer,* describes a practical method of photography which enables the amateur to take his own portrait with a minimum of trouble and a maximum of success. He says:

Whether or not there is any similarity between a visit to the photographer and a visit to the dentist, professional photographers are often reminded that the dentist's would be much preferred. No doubt this is more or less a joke of the "break-the-plate" variety—a grade more of refinement about it, perhaps, but uttered, let us hope, with no more sincerity.

However, it is no doubt true that a great many people do anticipate being photographed with a good deal of dread. It is curious to think why this should be. It would seem the easiest thing in the world to be one's natural self, and yet we know that, on this one particular occasion, it is often the hardest.

Let us imagine a sitter coming to be photographed with about half a dozen friends, and that they are all allowed in the studio, and all keep their eyes on the sitter, noting every movement and passing expression, and needlessly reminding the victim that she doesn't look a bit natural; that might even be as bad as an extraction without gas. Supposing now that all those eyes are banished, how much more natural the sitter would feel! Still there would be something left to cause self-consciousness—to wit, the operator. Now it is part of the operator's function to attend to the posing, the lighting of the picture, and the exposing of the plate; but it is just as much his function to make the sitter feel easy, natural, at home, and free from self-consciousness. But how many operators can do that with certain subjects? Often the operator is the one disturbing element, and to make the operation successful he must go.

I am not advocating this method for all and sundry subjects; sometimes it would be worse than useless, but there are cases which it particularly suits, and I have obtained eminently successful results with it when ordinary methods have failed.

The great idea is that there should be no influence present to take the sitter's thoughts, so that the mind resumes its natural bent and the features relax. How often it is with some people that when alone the expression they assume in company falls off like a mask, revealing their natural self.

It is not at all difficult to put this idea into practice, providing we have fairly intelligent sitters, for it devolves on them to make the exposure. The lighting, focussing, and even posing may be done by the operator, although as little of the latter should be done as possible; it is best to get just the general idea, warning the sitter not to move out of the range of focus. The exposure is best made by means of an automatic shutter, such as an Automat or Compound, as this allows of a fairly long exposure, up to one or even two seconds, and yet the sitter has only just to release the shutter, and has not the responsibility of timing the duration of the exposure.

There are one or two methods of releasing the shutter. If only the head and shoulders are taken a pneumatic release may be used, using a large ball to compensate for the extra length of tubing; but when the hands are shown it is sometimes difficult to hide the ball, although, of course, it is quite possible if one hand is placed slightly behind the dress or accessory. A long continuous release would be better in this respect, but would be rather expensive, and long lengths are apt to work stiffly. The best thing would be an electric release, and if anyone took up the idea seriously it would be well worth while to devise such a release, to be controlled by a small spring contact or button push.

The method I have used is to simply have a piece of strong thread tied at one end to the shutter trigger, then run under a piece of heavy furniture placed near the camera, and so to the sitter, who has the other end twisted tightly round one finger. If this hand is rested in an easy position, such as on the back of a chair, it is an easy matter to raise it just slightly, and so release the shutter. It will be noticed that in the illustration a mirror is placed near the camera, and this being handy, it serves to take the thread. In any case it is better to run it under a piece of furniture, such as a chair, rather than through a screw-eye attached to the tripod leg, as this is apt to cause disaster. Whatever is done, however, it must run quite easily. The great function of the mirror is, of course, to enable the sitter to watch the expression, and it may be placed in any position, so as to get three-quarters, side, or full-face views. It must be adjusted so that the sitter can watch the expression quite easily without straining the head, eyes, or body.

Very little remains to be said about this method of painless portraiture. One thing is that it is necessary to warn the sitter not to make the exposure until everything is quite ready, as there is a temptation to pull the thread or pinch the ball just to see how it works. To see that everything is all right it is advisable to have a little rehearsal before the plate is exposed.

N. B. This scheme reads well, and it has some value, but, the camera, and the mirror are not acting from the same view point and the glance, fierce or languishing, cherubic or diabolic that the autographer desires to record and sees visible in the mirror can well appear on the plate in quite a different fashion, the departure from reflected image being proportionate to the difference in position.—(H. D'Ap.)

A Good Suggestion

A dish of running water is always useful in the developing sink, for backing, etc., soon makes a considerable mess of standing water used for rinsing plates. Running water is also often prescribed for the purpose of washing prints, but in spite of its apparent usefulness it is not so easy to arrange matters as some appear to think. The mere fact that water is continually running into and out of the dish by no means implies that the water is continually being changed, for eddies are often formed in which the water simply circulates without leaving the dish at all. The efficiency of any system may most easily be tested by putting some permanganate solution into the dish and noting how long it takes for the colour to be entirely removed. With a good arrangement the whole of the colour will be discharged in a few minutes, while a bad one will leave some parts of the water still stained after a long time. One method of getting an efficient movement of the water is to select a dish with slightly sloping sides and allow a steady stream of water to fall vertically on the middle of one of the sides. It is, however, not always possible to effect this, and we have recently adopted a different and more convenient method. A short length of small diameter compo tubing is fixed to the end of a rubber tube, which is at the other end fixed on the water tap. The compo tube is bent into a hook form so that it will slip readily over the side of the dish, and by trial the outlet is bent so as to give the best possible movement of the water. Generally we find it best to bend the end so that the stream impinges on the side of the dish at a slight angle. With a small dish one tube of this kind is sufficient, but with a large dish two or more may be used in different positions, the various rubber tubes being connected by T-pieces, so that one water-tap alone is sufficient.—*British Journal of Photography.*

The Ocean Wave

The wave photographer is not usually so scientifically inclined as Dr. Vaughan Cornish, who, in a lecture at the Camera Club, not only brought forward some excellent pictures of waves taken in mid-ocean, but also some measurements of their height and length. It is quite the common impression that waves are much higher than is actually the case, but the height of waves from crest to trough is never more than forty, or at most forty-five feet in a mid-Atlantic gale. Of course, when a wave strikes against an obstacle, such as a sea-wall, the height to which the water is projected upwards is much greater, but that is not the true wave. The length of waves is equally deceptive, especially when one takes a comprehensive glance at the sea from the lower deck. Waves are much longer than they seem, and Dr. Cornish, having measured them during a great Atlantic storm, rejects seamen's experiences in favour of theory, which in this case corresponds with scientific measurement, and gives the length of a wave as between six hundred and seven hundred feet. The speed of waves is sometimes equal to that of the wind, if one takes the average velocity maintained by the wind for two or three hours, but one never gets waves which travel as fast as gusts of wind. Some of Dr. Cornish's photographs were particularly striking, one especially which showed the curious ribbing effect on an inland sea, found in its perfection after a still night on a lake, when the first vessel has just gone past in the morning.—*Amateur Photographer.*

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

PUBLISHER'S NOTE. — This department, this month, is contributed by Mr. Purnell, the temporary Editor-in-Chief of the Second California Camera Club Annual, which takes the form of our present or February issue. As Mr. Clute was allowed to answer these same inquiries in his own way, by mail, the recipients of the double attention will kindly pardon any inconsistency thereby made apparent and congratulate themselves that they have at least this one opportunity of enjoying a change that we strongly suspicion will be most welcome.

Making Ground Glass

O. J. says he is unfortunate in often breaking his ground glass; and, as he lives some distance from a dealer, he wants to know how to make his own. Let him take a piece of plain glass of suitable size; on a table lay a newspaper, and on it the plain glass; on the glass put about half a teaspoonful of fine emery powder, moisten with water, then cover with a smaller piece of glass, and, with a circular motion, rub over the lower glass till well and finely ground.

A Damaged Camera

L. A. says he is engaged in rough landscape work, his camera gets many scratches and hard knocks, is much defaced, and he wants to know how he may renovate it. We could tell our inquirer how to do this, but unless he is a very good mechanic, the instructions would not benefit him much. He had better send his camera to a repairer, one who will no doubt do the work cheaper, quicker and better than he could do it himself.

Combined Toning and Fixing

K. O. L. asks for a good combined toning and fixing bath. Previous to the extensive use of developing papers, the following was much used, giving prints of beautiful tone and great permanency. Take hypo, one ounce; gold chloride, one and one-half grains, and water, eight ounces. The gold chloride comes in fifteen-grain bottles. Dissolve it in fifteen ounces of water. One and one-half ounces of this solution will give the required fifteen grains of chloride. Without washing, immerse the printed sheet in the above bath, where it will soon fix and tone to a fine purplish black. The above quantity of bath is good for only about two hundred and fifty square inches of paper, when half the bath should be thrown away and four ounces of fresh bath added, and so on for each two hundred and fifty square inches of paper. This bath should be made up at least twenty-four hours before use. When toned and fixed, wash prints in running water about one hour.

Moonlight Pictures

G. M. O. wants to know how to take photographs by moonlight. These are usually unsatisfactory, as they do not look "natural." They require exposures of from one to three hours, they lack correct contrasts and details, and the movement of the shadows produces unpleasant effects. The moon itself cannot be included. A better plan is to try for "moonlight effects" which are taken in bright sunlight with a very brief exposure for the clouds. The view should be taken directly toward the sun when it is partly hidden behind clouds, late in the afternoon.

Coloring Lantern Slides

M. J. B. wants some information about the coloring of lantern slides. It would be quite difficult to convey this information by the printed page. It is a trade of its own. Our correspondent would do well to take lessons from a professional colorist. He might also try making his slide negatives on autochrome plates, whereby he would get his color and his transparency by one operation.

Blisters on Developing Papers

C. J. W. asks for information about preventing blisters on his developing papers. There are several methods. Rub the back of the print with cotton dampened with alcohol (any kind) just before development. After development and fixation, blisters may usually be prevented by immersing prints in a weak aqueous solution of common salt, or in a solution of common alum, or in a solution of formalin diluted forty times with water. Usually also prevented by having all the solutions and the wash water at the same temperature. It is hardly worth while to pay any attention to small blisters, as they usually settle down smooth while the print is drying. Very large blisters are hopeless.

The Best Developer

J. A. B. asks the old, old question, "What is the best developer?" They all have their merits and their friends. One had best use that to which he is most accustomed, the one which already serves him well. Below is a universal Ortol developer the present editor now uses for all plates and for all gaslight papers, one with which he gets results that suit him. Try it, and no doubt you also will be well suited.

A: Water, boiled and cooled..... 32 ounces
Potassium metabisulphite ....240 grains
Ortol ....320 grains
Mix in order given.

Magic Photographs

J. A. P. thinks he would enjoy surprising his friends with magic photographs, and wants to know how they are made. Try the following: Take a black and white bromide print and bleach it completely in a strong aqueous solution of mercuric chloride, wash well, dry, and keep in the dark till wanted for use. Then brush this bleached print over with a five per cent aqueous solution of sodium sulphite, which will restore the original picture. Again wash and dry.

Complementary Colors

C. A. G. asks what is meant by complementary colors. For a full explanation he is referred to a book on physics; but briefly we will say that the complementary of any given color is that which has to be added to produce white. Thus, yellow is complementary to violet, red to blue and green to purple.

Rapid Development

Very rapid development has become quite popular. When the exposure of the plate is about correct, rapid development gives as good results as does slow development, and saves much time. A good procedure is as follows: Take Rodinal, one ounce, and add water, three ounces. First wet the exposed plate with water, rub over with cotton to remove air-bubbles, and then drain the water off. Have temperature of everything at about sixty-five degrees. Pour the above developer over the plate in the usual way and rock the tray vigorously. The moment the developer is poured on, begin to count seconds, and at the end of fifteen take the plate out quickly and put in the hypo bath. Be accurate and quick in your movements, lose no time, make no false motions. Do not hold the plate up to the red light for examination, as you would thus consume a few seconds and overdevelop; besides, examination is unnecessary. Should you think fifteen seconds' development hurries you too much, you may use one ounce of Rodinal with six ounces of water and then secure development in thirty seconds.

For the quick drying of washed negatives, placing them in a bath of strongest alcohol for a few minutes, then in a second bath of alcohol for another period, and placing these dehydrated negatives in a draft of dry air for a few minutes will do the work quickly and well. Another plan is to immerse the negative about five minutes in a saturated aqueous solution of potassium carbonate, then place them between blotters to remove the liquid, finally wiping or blotting off with a soft cloth. The film has become hardened. The negative thus dried can be printed from at once.

To Avoid Fog

No dark-room light is perfectly safe. Any such light will fog any dry plate during development if exposed to it long enough. Guard against fog by holding the nearly developed plate up to the light to judge its density, for only a few seconds at a time. At other times keep the dish covered with an old mount or keep the tray shaded.

A Good Reducer

Here is an excellent reducer for negatives. It reduces uniformly and without stain. Make a five per cent aqueous solution of mercuric nitrate, take eight ounces of this and add ten drops of nitric acid. Place the negative therein and when sufficiently reduced wash over half an hour in running water.

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NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality a letter "X" will be placed after the member's number indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

George E. Moulthrope, Director Lantern Slide Division, Bristol, Conn.

Edward B. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

MEXICO.

Vice-President—Jose Ramos, 2a de Morelos 44, Morelia, Mich., Mexico.

Album Director—J. Jesus Martinez, Ap. 5, Morelia, Mich., Mexico.

CANADA.

Album Director—C. H. Foster, Kerwood, Ontario, Canada.

Secretary—J. A. Waddell, Kerwood, Ontario, Canada.

NEW MEMBERS.

3772—O. A. Nelson, R. F. D. No. 1, Box 33, Centralia, Wash.
Class 2.

3773—Frank J. Birt, 525 S. Broad Street, Trenton, N. J.
3¼x4¼, 4x5, 5x7, developing paper, of general outdoor work; for similar prints. Class 1.

3774—Lillian H. Varnum, Box 29, Orland, Maine.
5x7 and post card size, various papers, of scenery and home portraiture; for scenery or something of interest from the State or town concerned; good work only; post cards or prints. Class 1.

3775—John Weaver Frey, Dupue, Ill.
Class 3.

3776—H. C. Mitchell, Kent, Ohio.
3¼x5½, various papers, of scenery, lake views and river views; for scenery. Class 1.

3777—Lelie W. Stansell, Jacksonville, Oregon.
Class 2.

3778—William F. Lenz, 340 Santa Clara Ave., Alameda, Cal.
3¼x5½; will exchange after correspondence only. Class 1.

3779—Miss Louise B. Hensinger, 3322 Daisy Avenue, Cleveland, Ohio.
Class 2.

3780 R. L. Phegley, care German American Bank, Anaheim, Cal.
3¼x5½, developing papers, of mountains, seaside views, and mainly of general scenery; for good scenery, especially foreign. Class 1.

3781—A. N. Ramsay, Wengler, Cal.
Class 2.

3782X Theodore R. Platt, 31 Harral Avenue, Bridgeport, Conn.
4x5, various papers; post cards only. Class 1.

3783—Corbin Stambaugh, R. F. D. No. 1, Box 10, Browning, Ill.
Class 2.

3784 Marguerite Kucheman, Bellevue, Iowa.
3¼x5½, developing paper, of miscellaneous subjects; for scenery. Class 1.

3785—H. L. Humphrey, 1001 Miss. St., Lawrence, Kans.
5x7, 4x5, 3¼x5½, developing papers, of Kansas University buildings, etc., scenery, athletics, camping scenes, and industrial work; for notable persons, scenery in general, methods of industry, and anything historical. Class 1.

3786—The Howes, 121 E. Gray Street, Louisville, Ky.
2½x4¼ and enlargements, developing papers, of babies, typical scenery of this section of the country, Louisville buildings, and street scenes; for babies, typical scenes, and pictures such as "Popular Mechanics" and "Popular Electricity" use; post cards only. Class 1.

3787—L. M. Allan, 2710 Cedar Avenue, Minneapolis, Minn.
Class 2.

3788—Herman Chr. Flierl, 924 Humboldt Pkway, Buffalo, N. Y.
3¼x4¼, 2¼x4¼, 1⅝x2½, various papers, of a few of Germany and street scenes; for any interesting scenes, and motoring photographs. Class 1.

3789 Frank C. Edwards, Sr., Lock Box 54, Croton-on-Hudson, N. Y.
4x5, 3¼x5½, 5x7, various papers, of child studies, landscapes, and things of interest to any one; for anything of interest, landscapes, and child studies. Class 1.

3790—C. H. Massonneau, 7 Phillips Street, Amsterdam, N. Y.
Class 3.

3791—C. F. Thornton, Riddle, Ore.
Class 3.

3792—Fritz Stein, 35 Plympton Road, Brondesburg, London, N. W., England.
Amateur size and 9x12 centimeters, printing-out and developing papers, of photos taken in Germany and England, and child studies; for photographs and post cards of children, figure studies, bathing and beach scenes preferred; also photos of children of foreign nations and races. Class 1.

3793—Charles A. Senior, Grey Street, Onehuaga, New Zealand.
¼, ½ and stereos, various papers, of Auckland, New Zealand views, lantern slides and post cards; for lantern slides, post cards, stereo views, and genre subjects, especially genre subjects. Class 1.

3794—T. H. Davidson, Box 11, Coon Valley, Wis.
Post cards. Class 1.

3795—Anton R. Ernst, 406 N. Huron Street, Wheeling, W. Va.
3¼x5½, and 4x6, developing papers, of general, pictorial work, freaks, and good Canadian water scenes; for pictorial work, head studies, and marine views. Class 1.

3796—David F. Berry, M. D., 710 Hume-Mansur Building, Indianapolis, Ind.
3¼x4¼, and 5x7, various papers, of pictorial photographs; for the same. Class 1.

3797—Amos Champlin, R. F. D. No. 4, Box 28, Hanford, Cal.
1⅝x2½ to 5x7, developing paper, of mountain scenery, groups, and mining property; California mountain scenery, landscapes (lake and river), nude and beauty poses; send one single print with request only. Class 1.

3798—Mrs. John A. Royce, Box 391, Mound City, Ill.
3¼x5½, developing paper, of various views; for views and children; post cards only. Class 1.

RENEWALS.

1572—Harry E. Bishop, 1706 College Avenue, Indianapolis, Ind.
5x7 and smaller, developing paper, of miscellaneous views; for the same. Class 1.

1862X—Paul M. Breidert, 316 Summit Street, Kendallville, Ind.
Post cards only. Class 1.

2123—J. B. Oheim, P. O. Drawer M, Henrietta, Texas.
Will exchange for anything interesting, no matter what it is, if it is original work. Class 1.

2215X—S. S. Webb, 805 East Market Street, Warren, Ohio.
Will exchange only post cards of any subjects, just so they are good work, no poor work sent out, and I want no poor work sent me, as I will not answer that class. Class 1.

2246X—L. E. Millea, 357 Main Street, Norwich, Conn.
Class 2.

2254—Charles F. Rice, P. O. Box 517, Mamaroneck, N. Y.
Class 2.

2556—John E. Thwaites, S. S. "Dora," Seward, Alaska.
3¼x5½, of Alaska coast scenes; prints and post cards. Class 1.

2565—E. V. Bargamin, Elk City, Idaho.
Stereos and post cards of nature studies for the same. Class 1.

2671 Arthur Soderstrum, 2944 E. 28th Street, Kansas City, Mo. Class 2.

2792—J. R. Young, Box 515, Chico, Cal.
Class 2.

2824—Samuel W. Wenger, Knob Noster, Mo.
Class 3.

2942—R. C. Smith, Box 1209, Anaconda, Mont.
3x5¼, prints only, of mountains and lakes, camping, hunting, and snow scenes; only good, clean, trimmed, prints sent out, and the same desired. Class 1.

3189—W. R. Davison, R. F. D. No. 3, Brighton, Iowa.
4¼x6½, developing paper, of street scenes, landscapes, and miscellaneous views; for any good interesting views; post cards. Class 1.

3212—Gerald L. Massey, Big Eddy, Ore.
2½x4¼, 3½x5¼, and 5x7, of landscapes, construction, etc.; for the same; prints or post cards. Class 1.

3230—Lewis D. Capen, Box 24, Millbrook, Mich.
Class 3.

3271—M. de Leon Imus, Chelan, Wash.
Class 2.

3341—Frank A. Rice, Box 1125, Ouray, Colo.
3¼x5½ and enlargements to 8x10, developing paper, of Colorado mountains, waterfalls, snow scenes, and lumbering scenes; for foreign, historical or anything interesting; good work only for the same. Class 1.

3517—Percy Neymann, Ph. D., 123 Hooper Street, San Francisco, Cal.
5x7 and 8x10, developing papers, of pictorial; for genre, nudes, and studies. Class 1.

3534—Burr E. Chance, R. F. D. No. 3, Vermontville, Mich.
3¼x5½, 2½x4¼, and post cards, of views of central and southern Michigan; for anything interesting, especially foreign views. Class 1.

3540—J. W. Holt, 433 Broadway South, Portland, Ore.
Class 2.

3600—W. W. Dennis, 322 7th Street, Donora, Pa.
Class 2.

3656—George C. Held, 1019 Haight Avenue, Portland, Ore.
3¼x5½ and smaller, also post cards, developing paper, of Oregon scenery, marines, and focal plane high speed photography; for interesting subjects of any kind from any place, especially high speed photography with full data; only good work given and desired. Class 1.

3726—Thomas S. Kincaid, R. F. D. No. 5, Salisbury, N. C.
Class 2.

CHANGES OF ADDRESS.

2671—Arthur Soderstrum, 2944 E. 28th Street, Kansas City, Mo.
(Was Topeka, Kans.)

3342 Warren W. Willison, 1383 W. 36th Street, Los Angeles, Cal.
(Was Denver, Colo.)

3358—Asa L. Brower, 2304 Jackson, Ogden, Utah.
(Was Kamas, Utah.)

3684—W. J. Willis, Spur 254, Kettle River, Minn.
(Was Janesville, Minn.)

3725—Roy A. Neil, 527 Fourth Avenue South, St. Cloud, Minn.
(Was Lander, Wyo.)

WITHDRAWAL.

3763—W. Lutz, Port Townsend, Wash.
On account of lack of time.

CLUB NEWS AND NOTES

Chicago Camera Club

This enthusiastic body of amateur photographers seems to enjoy the advantage of a committee of some kind with an inclination to keep the members interested. There is a school for members and its scope can be judged by the subjects announced for February second, ninth, sixteenth and twenty-third, namely: Enlarged Negatives, Gum Printing, Portraiture and Development, in the order named. On the fifth of the same month there was a travel talk on Pleasant Camera Days in Italy, by Edgar Bassett, later an exhibition of the work of J. C. Strauss, of St. Louis; the ninteenth, a lecture on the Marvels of Printing, by N. S. Amstutz, F. R. P. S., and on the twenty-sixth the lantern slides from the American Interchange.

February tenth, the Chicago Society of Color Photographers met to discuss autochromes and experiments with a flash cabinet. Surely the above is quite a feast for one month and the members should congratulate themselves thereon.

Second Exhibition of the Cleveland Camera Club

The second exhibition of photographic pictures by the Cleveland Camera Club was held at the Case Library, in that city, from December first to fifteenth inclusive. About eighty prints and enlargements were shown by twenty-four exhibitors. While there were not as many exhibits as at the first exhibition made by the Club, the character of the work shown was distinctly better.

Upon entering, the first picture to attract the eye was Horace Carr's "A Friendly Cat," hung low so that the subject appeared as coming forward to welcome the visitor. An exceedingly handsome display of enlargements, views taken in Mexico, was made by George M. Nisbett. One of these, "An Altar in the Church of San Martin, Tepozotlan," finished in Sepia, was particularly striking. There are seven altars in this church, all of which are heavily gilded with thin sheets of beaten gold; legend stating that the value of the gold alone is over three million dollars. Carl Krebs, who has made many interesting botanical studies, showed two such, "Mushrooms" and "Trilliums," both very effective. The treatment displayed by the pictures was the prints ranging in character from some exceedingly fuzzy pictorial work to the characteristic minute detail of commercial and architectural photography. One particularly interesting exhibit, though not a photographic print, was a photogravure made from a three-color flashlight portrait from life, the yellow, red and blue sensation negatives being made simultaneously by means of a special camera. The tone rendering of the colors was exceedingly good.

The Club is planning to hold another exhibit in April and expects to make this spring exhibition an annual feature. Cleveland is located in the northwestern corner of the old "Western Reserve," which formerly belonged to the State of Connecticut. This portion of the State was settled early in the nineteenth century and abounds in historical localities, while the geological formation contributes to numerous picturesque gorges along the streams.

MUSHROOMS By CARL KREBS

OUR BOOK SHELVES

A Book on Retouching

In response to the all-the-time demand for a good book on retouching, Messrs. Tennant and Ward have just issued a new edition of *The Photo-Miniature* No. 122, "How to Retouch Portrait Negatives," a copy of which we have just received. In this little manual an expert retoucher gives plain and practical instructions on the retouching of negatives with pencil, knife and stomps; telling the whole story from beginning to end, so that anyone, whether amateur or professional, can take the book as a common-sense course of instruction without any other teacher. It is a wonderful little book, fully illustrated, and sells at twenty-five cents.

"The Art of Living Long"

This is the title of a translation of the celebrated "La Vita Sobria," written by the Italian nobleman, Luigi Cornaro, who, at the age of forty, was told by his physicians that he had but a few years to live, only to inspire a change in his mode of life that resulted in his outliving them all. This was three hundred and fifty years ago, but there are many present-day examples of the correctness of the laws laid down by this Venetian centenarian. The great grandfather, and in turn, his son, grandfather of our own Edison, both took these same teachings as a guide. The former died at the age of one hundred and two; the latter achieved a one year longer period. The teachings are those mentioned in Margaret Preston's "Personal Reminiscences of 'Stonewall' Jackson" as a favorite authority from whom that eminent soldier often quoted. In addition to the four parts that make up Coronaro's work, the book includes comments on the author and his writings by Joseph Addison, Lord Bacon's "History of Life and Death," and Sir William Temple's "Health and Long Life," making the volume a particularly desirable one. This translation is said to be the best yet offered, and the publisher, William F. Butler, Loan and Trust Building, Milwaukee, Wisconsin, should have the highest praise for making this most valuable, handsome volume available. Cloth binding, gold top, two dollars, postpaid. De luxe edition, Persian and levant morocco, four and six dollars, respectively.

"The Spell of Switzerland"

This volume, the latest of the Spell Series, has all the charm and freshness that characterizes a production that follows upon a recent tour of the country by a talented writer such as Nathan Haskell Dole has proven himself to be. In this book the writer most entertainingly portrays his appreciation of the historical and picturesque element that so strongly pervades this most interesting land. While there is displayed no intention of making it a guide book, a map and many photographic reproductions are included, in addition to four plates in full colors; and while it does not cover the history of the country, it contains much that is historical, told in a delightful way. All in all, it is a book of travel that will delight the most critical reader. Published by L. C. Page & Company, Boston, Massachusetts. Two dollars and fifty cents, net. Postage, twenty cents.

The Back-Yard Farmer

If one is a flat-dweller, it will simply be inviting a move to suburbs to read this new book by J. Willard Bolte, a book that not only suggests a solution to the problem of the hour, but the more than possible attainment of health and pleasure in the suburban back yard. Preparing a Garden, Laying Out Flower Beds, Making the City Flock Pay, Why Gardens Fail, Making a Garden Productive, these and other chapters give some suggestion of the wealth of information contained within this book of seventy-five chapters. The author is an authority on the subject, was for a number of years on the faculty of State agricultural colleges, and the reader of his book will certainly consider himself fortunate in having such advice and suggestions as are offered, placed at his disposal. The book is just from the press of Forbes & Company, Chicago. Price, one dollar.

"The Home Nurse"

This is the latest book from the pen of that popular writer on health topics, Dr. E. B. Lowry. The importance of having some such handy and authoritative work available in the household is not to be denied, and that Dr. Lowry is the one best fitted for preparing such a work is equally obvious. As a writer he is well known by reason of his other popular books and through his lectures on the particular subject which this book discusses, lectures delivered on one of the leading medical colleges, his special knowledge is established. All technical terms have been avoided and the reader will be surprised at the clearness with which the directions and the reasons for them are explained and made clear and convincing. Published by Forbes & Company, Chicago, Illinois. Price, one dollar.

"Success With Hens"

Would you raise chickens, have a lot of fun in doing it, and reduce your cost of living at the same time? Then get this new book by Robert Joos and its fifty-five chapters will tell you just how it can be done in a pleasing and convincing style that rarely characterizes books of this kind. The author explains that poultry raising, like any other business, requires work and good judgment; but he goes on to show that it offers opportunities for the poor man, as it can be started on a small scale and with but little capital, from which one can increase gradually to an independent livelihood. Only the best and up-to-date methods are given and the small as well as the large poultryman, the beginner as well as the experienced, will find the book invaluable. Published by Forbes & Company, Chicago, Illinois. Price, one dollar.

"Royal Castles of England"

Henry C. Shelley, the author of "Old Paris," "The British Museum: Its History and Its Treasures," and other examples of the historical and descriptive, has given us this volume of information, made interesting by a charming style that is as picturesque as the subjects selected. It forms an account of those fortresses of olden times that were either the homes of English sovereigns or else were intimately associated with some romance or tragedies in their lives. The publishers, L. C. Page & Company, Boston, Massachusetts, have given us a handsome book, cloth, decorative, gold top, with forty-eight full-page illustrations. Price, three dollars; postage, twenty-five cents.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

When You Visit California

The idea, an erroneous one held by many well-informed people, that degree of latitude influences the climate of California, is one that should be dispelled. The actual conditions are entirely at variance with such impressions. The delightful climate which this State enjoys is influenced by the warm stream of the Pacific Ocean that flows past her shores and by the protection offered by two ranges of mountains that parallel her length. The result is that the semi-tropical climatic condition is common to a strip extending nearly the entire length of the State, the northern end of this favored portion being equally suitable to the requirements of semi-tropical plant life with that portion lying several hundred miles to the south, where one would expect to find an even more tropical clime were degrees of latitude the controlling factor.

The intending visitor to California, and particularly the amateur photographer, should allow himself at least a fortnight in which to visit the many delightful spots easily reached from San Francisco. Both

Central and Northern California abound in natural scenic attractions, and for climate that assures true comfort all the year round, the San Francisco Bay region excels any other portion of the Coast. Delicate flowers such as the heliotrope, pansy and violet, know no winter here. The famous California redwood trees are to be found only in the Coast Range of Central and Northern California; Muir Woods, only a few minutes' ride from the city, being an example.

Luther Burbank has his home and grounds at Santa Rosa, well to the north of San Francisco, while bearing orange, lemon and grapefruit trees may be found on most suburban home places around San Francisco Bay. Attention should be called to the splendid citrus groves in Butte County, over one hundred and sixty miles north of San Francisco, where the finest oranges ripen from four to eight weeks earlier than in the citrus belt six hundred and fifty miles to the south. From the same locality come the famous ripe olives that invariably take first prize either at home or abroad.

The scenic beauties of the bay and river counties would require the whole edition to enumerate in detail, so only a brief reference will be made to them. The beautiful residential cities of Oakland, Alameda and Berkeley, the University of California, Greek Theater, Mount Diablo, Niles Canyon, the famous hacienda and grounds of Mrs. Phoebe A. Hearst, the old Spanish Mission near Mission San Jose, the famous Santa Clara Valley with its ten million fruit trees, the Santa Cruz Mountains with its groves of redwoods, the trees often reaching sixty feet in diameter and two hundred and seventy-five feet in height, the Stanford University amid the most charming natural landscapes, all quite near; and further down, Monterey Bay with its bathing and fishing, the Del Monte Hotel with its extensive grounds, Santa Cruz and its Casino, the Seventeen Mile Drive, Cypress point, and so forth.

To better acquaint the rest of the country with the superb advantages of the bay region, the Tourist Association of the Bay and River Counties, with offices in Suite 623, Merchants' Exchange Building, San Francisco, California, is now preparing an illustrated booklet for free distribution among those who think of coming to California. Do not neglect to write for a copy.

$5,000.00 for Photographs

The Ansco Company offers five thousand dollars for photographs of America's lovely women and the following is the first announcement of this contest that is of the highest interest to both amateur and professional photographers. It not only affords the opportunity to win a substantial cash prize, but to gain considerable publicity by having your photographs exhibited to admiring audiences composed of thousands of people from all parts of the country. The purpose of this contest is to secure portraits of fifty of America's loveliest women to be exhibited by Ansco Company at the Panama-Pacific International Exposition in San Francisco.

Fifty photographs will be chosen in all, and prizes totaling five thousand dollars will be distributed as follows: First prize, five hundred dollars; second prize, four hundred and fifty dollars; third prize, three hundred and fifty dollars; fourth prize, two hundred and fifty dollars; fifth prize, two hundred dollars, and twenty prizes of one hundred dollars each and twenty-five prizes of fifty dollars each. The selection of the winning photographs will be made by three impartial judges, chosen for their especial ability to appraise true feminine loveliness.

This contest will, undoubtedly, create national interest, and it will afford a real opportunity for enterprising photographers to profit by it. To promote this national interest, Ansco Company will extensively feature the contest through advertising in the leading publications. In succeeding issues of Camera Craft additional plans, to give photographers greatest benefit from this contest, will be fully outlined. This special assistance to be rendered by Ansco Company will be very effective.

The contest will begin on May first and close December first. It will be open to all professional and amateur photographers, and competitors will not be limited to the use of Ansco goods. Each competitor may enter any number of photographs, taken with any camera, and printed on any paper. The full details of the competition are being printed in a special folder, which will be distributed through Ansco dealers.

It does not seem possible to conceive of a contest which would be more interesting to the public at large, as well as to photographers. Husbands, brothers, fathers, mothers and sweethearts will all be anxious to have their "loveliest women" represented in the contest, and the "loveliest woman" herself will not be backward in having her photograph taken for exhibition.

The plan is exceptionally appealing in itself, and the national advertising which will feature it will be of an extent and character to focus widest attention, and sustain enthusiasm throughout the period of the contest. The next number of CAMERA CRAFT will contain more about this contest. Every photographer should read these articles, and use them as a basis for planning his own campaign to profit by this unique and charming competition.

Reported by William Wolff

L. P. Pakorney, operator for Bushnell Studio, San Francisco, recently returned from a trip to Vienna, his old home.

Leading amateurs of Fresno are forming a Camera Club. The temporary officers are: R. K. Mardon, Secretary; R. A. Parker, Chairman, and G. G. Bodeen, Director.

J. W. Beatie, chief demonstrator for Cramer Dry Plate Company, is spending the winter in Southern California.

Baby Dol-son is now leading receptionist at the Bushnell Studio in San Francisco.

Miss Ollie Wenzel has taken a position with the Hartsook Studio in San Francisco.

Charles McMillen, of Vallejo, spends Monday of each week in San Francisco.

Harry V. Strong, of Tapprell, Loomis & Company, was in San Francisco during February.

The writer is now in the Far North and is finding business very good.

George A. Dolan, of Wolff & Dolan, Probus manufacturers, expects to make a change (on his face) this summer.

L. E. Rae, of Hirsch & Kaiser, is quite handy at making window displays and signs. The holiday windows of his firm were very tastily arranged.

The New Year at Daddy Lively's

Daddy Lively's Southern School of Photography, McMinnville, Tennessee, opened its eleventh successive year Monday, January twelfth, with a highly satisfactory enrollment. Almost every section of the United States is represented; Illinois, Pennsylvania, Indiana, Ohio, Michigan, Missouri, Nebraska, New York, Texas, Tennessee, West Virginia and Alabama each contributing. Students in both the class for beginners and the advanced class enrolled this year have proven to be industrious workers and Daddy Lively is highly pleased with the outlook for a satisfactory term.

An orchestra organized under Earl Patton's direction is holding regular rehearsals and Lee Lively, instructor in retouching and dark-room work, has started a movement for a Camera Club that is receiving the enthusiastic support of the student. Club members are planning a series of "photo contests" with regularly appointed judges to pass upon the entries. Small prizes probably will be awarded for the best pictures submitted.

Indications are that the four weeks' course for professional photographers, which begins the first Monday in February, will be attended by a record-breaking class. A large number of communications from prospective students already have been received.

Balmy weather prevails at McMinnville, Northern students who receive reports from home of severe snow storms are congratulating themselves that they are here.

A New Fast Eurynar

The new Eurynar lens, composed of only three glasses and working at f-4.5, manufactured by the Optische Anstalt, G. Rodenstock, Munich, Germany, is being offered by the American agent and we have had the pleasure of seeing some very fine work done with one of them by a newspaper photographer of Chicago. A convincing sample of similar work is shown in the advertisement on another page and we would advise readers interested in a very rapid lens at a medium price to write for descriptive circulars to, W. F. Lafbury Company, 305 North Fifth Avenue, Chicago, Illinois.

Prize Goes to Michigan

The twenty-five dollar prize for the best print of the Ability Test Chart, sent out by Allison & Hadaway, of 235 Fifth Avenue, New York, was awarded to C. N. Spoelstra, of 745 Crofton Street, S. W., Grand Rapids, Michigan. Of the seven hundred and ninety-two prints admitted, forty were selected for final examination, and after the most rigid tests had been applied, one of the four prints submitted by Mr. Spoelstra was finally selected. Mr. Spoelstra furnished the following details in connection with the print which won the prize: "This print was made through the use of two filters, one after the other, during the exposure. The yellow filter used by me was too light to hold back the blues sufficiently, and at the same time get the reds correct, so I used the red filter to get correct values where the yellow filter was not sufficient. I made several negatives before I got the proper ratic with my plates and filters. They follow: Stop f-64, yellow filter, 20 seconds, stop f-64, red filter two and a half minutes. The judges were Col. Theodore Marceau, Thomas Bedding, F. R. P. S., and Carl Ackerman.

A New Idea in Nature

We do best the things that we best like to do. This point of view has been strongly emphasized in Edward F. Bigelow's experience during his fourteen years' editorship of the department of "Nature and Science" of *St. Nicholas,* his correspondence with boys and girls having probably been larger than that of any other editor. He has severed his connection with the magazine and will establish in *The Guide to Nature* a department entitled "The Fun of Seeing Things." This he will conduct as he would lead a party of young folks on a ramble. There will be more spontaneity than restraint, more originality than formally trimmed rhetoric.

Boys and girls that wish to share in this real fun may address Dr. Bigelow at Arcadia, Sound Beach, Connecticut.

At the Dealers' Convention

The Visible Photo Printer Company has arranged for demonstration space at the coming convention of the Dealers' Association at Chicago and will show the members the time, labor, and money-saving merits of their machine, both in the professional and the smaller size. The former has a frame 11x14, while the latter is adapted to those doing amateur finishing with a lot of small film to handle. The company is turning out a valuable piece of equipment and its product is meeting with the success that its merit deserves.

P. A. of A. Employment Bureau

Since the photographers often find it difficult to obtain reliable help, the Photographers Association of America has established an employment bureau, which shall be for the free use of all members of the Association. The Secretary will keep on file a list of those seeking positions and upon inquiry will be glad to put any photographer in touch with the kind of help he needs. Experienced help desiring a change in position will do well to send their names together with a list of their qualifications to the Secretary, Jno. I. Hoffman, Bucyrus, Ohio.

Reduction in Price

The ten per cent reduction in prices on Goerz lenses and cameras, recently announced by the manufacturers, and which took effect February first, should be an interesting bit of news to all photographers, both amateur and professional, who appreciate the advantages of a high-grade outfit. Unless you have a Goerz catalogue (the 1913 edition is the latest), get one from your local dealer or write to the C. P. Goerz American Optical Company, 321½ East Thirty-fourth Street, New York City.

New Rotograph Agency

Our readers here on the Pacific Coast will be pleased to learn that an agency for the Rotograph bromide papers has been placed with The Wilton Company, 717 Market Street, this city. This firm will carry a very complete line of the most popular sizes and surfaces, and customers are promised the usual prompt and courteous treatment accorded by this enterprising firm. It would be practically impossible to carry every size, surface and grade manufactured by the Rotograph Company, but users will find a most liberal assortment from which to select.

Additions to Staff

The Multi Speed Shutter Company announce the appointment of A. M. Stewart as salesman in charge of the New York district, with offices at 114-116 East Twenty-eighth Street, New York; also that C. F. Potter, formerly connected with the Dye Auto Press Company and publisher of *Western Camera Notes,* of Minneapolis, has joined their staff in charge of the Trade Promotion Department.

An Interesting Announcement

The Multi Speed Shutter Company is offering a handsome enlargement of extreme speed work taken with a Multi Speed Shutter for the names of six bona fide amateur or professional photographers and twenty-five cents to cover postage.

Illinois College of Photography

The management has decided to keep a complete file of the photographs of all students of the college, with names, addresses and other data. The purpose of the system is to supplement the school register and class records. All the present students have been thus photographed and all future students will be taken as they enroll.

James F. Radcliffe, student of 1912, visited the college last month on a trip around the world. Mr. Radcliffe is connected with a large dyeing concern and travels a great deal in quest of new coloring materials and processes.

N. Hartunian, of Armenia, won the December prize in the College portrait contest last month.

Mr. and Mrs. Bissell have just returned from a month's visit with their daughter in San Francisco.

A new Century No. 2, 11x14 Studio Outfit, has been installed in the operating department at Rembrandt Hall.

Stereoscopic Pictures Wanted

The Victoscope Company, 155 Bond Street, Paterson, New Jersey, wishes to purchase stereoscopic photographs for reproduction, and asks that in submitting pictures the senders will please consider these points: Ordinary views are not wanted and will not be returned unless postage is enclosed. Only pictures of *exceptional* composition and subject are desired. Subjects should be mainly of striking natural scenery of general interest. Public buildings, city views and genre, only when strong interest is attached. Prints must be on glossy, black and white paper; unmounted, and of perfect technical work. Name and short description should be enclosed; and if photographs are copyrighted assignment must also be enclosed. From fifty cents to three dollars will be paid for each view, according to the desirability of the picture. Secretaries of Clubs are requested to post this notification on their bulletin boards.

Send For Them

From The Photo Products Company, 6100 La Salle Street, Chicago, comes two very interesting circulars they have prepared for their amateur trade. One "What Others Think Of Instanto" gives the opinion of a number of users of this most popular and inexpensive gaslight developing paper and tells about their special introductory trial offers. It also gives the prices on the new developing and acid hypo packages prepared especially for their products. The other circular "Your Questions Answered" anticipates the numerous questions which might arise in the amateur's mind, being unaccustomed to buying direct from the factory. We understand that these circulars are to be mailed to all INSTANTO users. If you are not acquainted with the merits of this remarkable paper, it would be well to ask for these circulars, or better still, send twenty-five cents for the three sample dozens as mentioned in their ad in this issue. Your quarter will be returned if you are not satisfied, and an extra one besides. You have no chance to lose.

The Non-Filter Plate

It is well known that certain colors do not render their true values in photography, unless the plate is assisted by means of a ray-filter. It is, however, often the case that a ray-filter is impracticable owing to the increased exposure made necessary by its use. It is claimed that the Imperial Non-Filter Plate does not require any ray-filter and will give a true rendering of color values, while its speed is about 200 H and D, which is sufficiently fast for snap-shot work. The results are excellent and the plate user would secure photographs of far more value if he used them at all times. Send to G. Gennert, 24 East Thirteenth Street, New York; 320 South Wabash Avenue, Chicago, and 682 Mission Street, San Francisco, the American agent for these plates, who will be pleased to supply you with samples.

Names Wanted

The Berlin Aniline Works, 213 Water Street, New York, ask us to endeavor to secure proper mailing addresses for the parties writing them from the following towns: Martinsville, Ohio; Keating Summit, New Jersey; Munsing, Michigan; Waukegan, Illinois. All are inquiries from parties who have failed to sign their names. Can you supply the name?

"Satista," a New Photographic Paper

We have recently been favored with some very beautiful prints made on "Satista," a new photographic paper that is both simple of manipulation and inexpensive as to price, as the reader will learn by consulting the advertisement on another page. It is only necessary to say that this paper is patented and manufactured by the Platinotype Company of London, and, as it is prepared with platinum and silver salts, it yields prints that have much of the fine quality of the best platinums. In addition to this the prints are absolutely permanent; and, as the coating is not an emulsion as in the case of silver papers, the prints lie perfectly flat without any tendency to curl and twist under climatic changes. The booklet of instructions together with sample prints and a special introductory offer that expires April 15th will be gladly sent, upon request, by Willis & Clements, 1814 Chestnut Street, Philadelphia.

Secretary Hoffman's Initial Announcement

Beginning with 1914, the Photographers Association of America, will have for its motto the single word "Service." As the new secretary of the Association, I would like to make this idea stand out above all others. Service, not alone at convention time but during all the other fifty-one weeks of the year; Service to each individual photographer and to photography as a profession.

It would be a little premature for me to say, this early along just what line our efforts will be directed. We must investigate and find out what can be accomplished that will most benefit the photographers, from a business as well as from an artistic standpoint. Along this line let me say that suggestions from any photographer, whether a member of the Association or not, will be received with the kindest consideration; and I would ask that such suggestions, no matter how trivial they may seem, be sent to me at Bucyrus, Ohio.

That the Association is starting on a new epoch is the belief of every one in touch with the new spirit animating the photographers. Tradesmen, business men, and professional men are all organized for self-protection. The time has come when every photographer should unite with this organization that has for its sole aim the subserving of his interests.

We need a large organization, one which will have prestige; one which shall be able to protect the profession from foolish legislation, commercial discrimination and popular misconception. We need the cooperation of every photographer in carrying out this work. Can we count on yours?

A Man's Health a Man's Wealth

It is more than a year now since the directors of the Bausch & Lomb Company began planning its "physical efficiency" work for its employes. It is a movement begun the first of the year, giving each of the workmen a fair deal and fitting him into the position where he can do the best for himself and the company, and do away with the idea of trying to fit a round peg into a square hole.

Each applicant for work at the Bausch & Lomb factory from now on will be asked to allow a physical examination upon entering their employ. It will not be compulsory, but there is little doubt of it becoming voluntary when its advantages are understood by the applicant. The man with a weak heart will not be put at a bench with a man who is perfectly sound in that organ, for it has been proven that in his endeavors to keep pace with the stronger man he works, in reality, double time, in the strain he puts upon his heart and nervous system. The man weakened with hernia will not be pitted against the man with perfect strength, although the pay will be equal, but each man according to his physical power will be placed where that power can work without physical drain.

Many of the employes who have been at the factory for years are taking the examinations, realizing that if there are any physical defects about them, or some trouble lies latent, it will be well to know and eradicate it. Eyes, ears and body are to be examined by specialists in each line, and without cost to the employe.

The movement for better conditions along these lines is a natural outgrowth of the hospital established by Bausch & Lomb at the factory in December of 1905, and which is now being enlarged, and promises to be one of the most complete of its kind in the world. There will be a men's ward, a women's ward, an operating room, offices for nurse and physician, as well as an X-ray room. The physician who has had charge of the work in the past will be the chief physician in the newer work, and much that is now being carried out is the result of the work and research of Dr. Harold Baker, with whom the physical efficiency idea is a confessed hobby, but whose work has had the support of the board of directors from the beginning.—Abridged from *Rochester Herald.*

XXI No. 3 MARCH, 1914 Price, 10 Ce

CAMERA CRAFT

SAN FRANCISCO
CALIFORNIA

Efficiency in the Printing Room

THE efficiency developed by scientific management is the life blood of every business plant today. A cost system is the first step towards ascertaining the best way to produce an article, and the best way is always the cheapest.

The best way sometimes means the use of the best men, the best machinery, and the best raw materials, irrespective of the price. A studio may save the price of an Ansco Printing Machine in a single month. The elimination of waste prints, and the customers gained by using

Cyko Paper

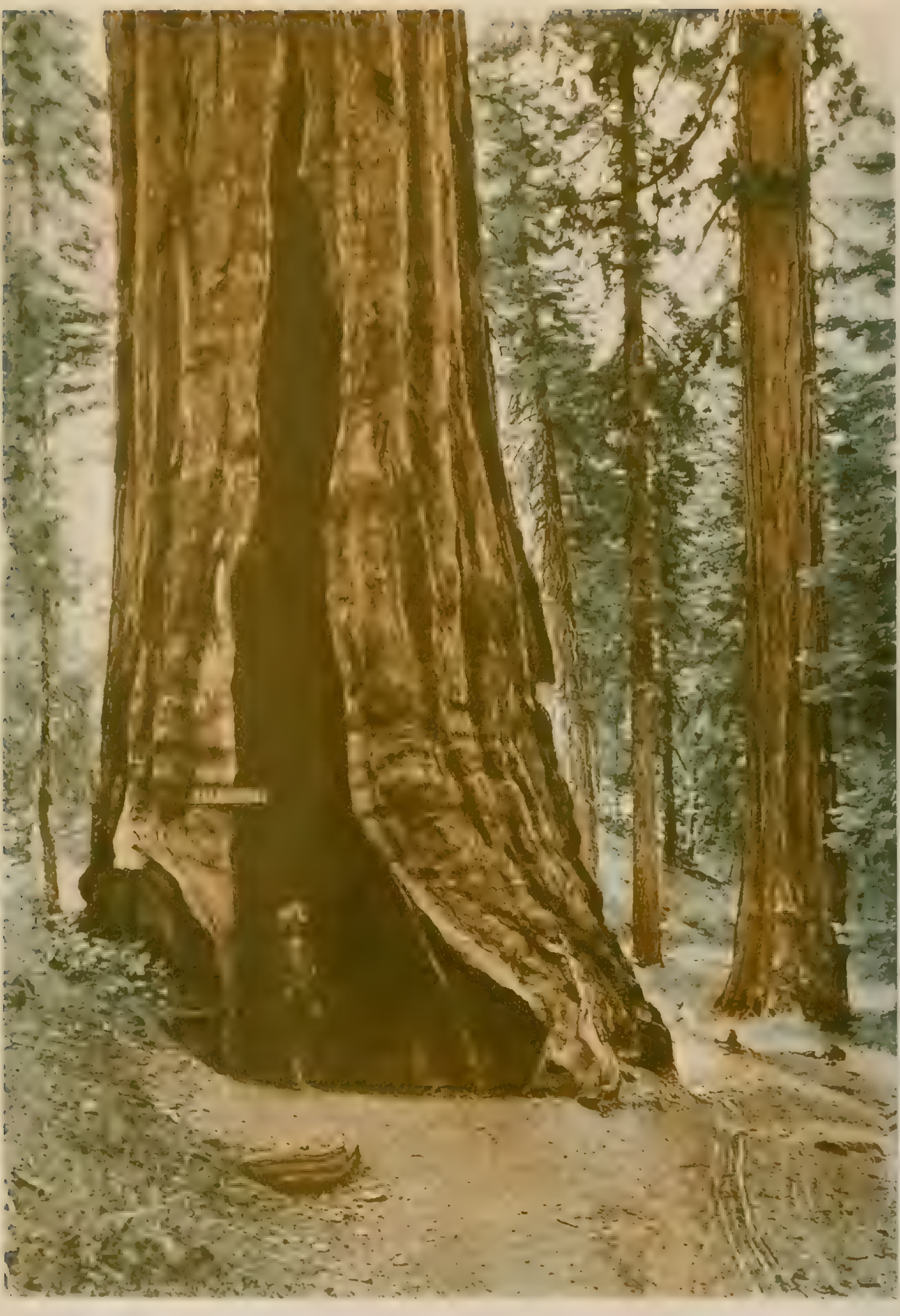
may pay for a whole year's paper bill of any progressive studio.

There's food for thought in this for many photographers.

Send for a copy of PORTRAIT and the PROFESSIONAL CYKO POINTER.

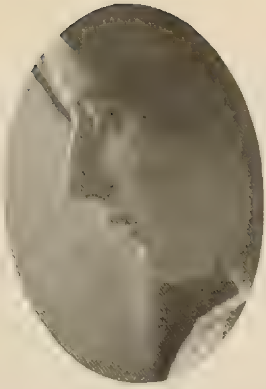
Ansco Company

BINGHAMTON, N. Y.



THE "TELESCOPE" BIG TREE
MARIPOSA BIG TREE GROVE
B. H. S. HOYT

CAMERA CRAFT



A PHOTOGRAPHIC MONTHLY
FAYETTE J. CLUTE, Editor and Proprietor
CALL BUILDING SAN FRANCISCO CALIFORNIA
VOL. XXI MARCH, 1914 No. 3

Experiences with the Paget Color Plate

By H. D'Arcy Power, M. D.

It is many months since I described, in these pages, the advent of a new color plate that promised much. Unfortunately, every new arrival in the field of color is heralded with many promises, promises that too often grow thin on closer acquaintance. So far, from the stilborn Warner-Powrie to the defunct "Thames" plant, the Omnicolore, the Dioptochrome, and some German efforts, nothing has appeared to seriously challenge the position of the Lumiere Autochrome which, despite all kinds of theoretical defects, still yields the most perfect practical results. When I first read the description of the Paget Plate I was not impressed, but I promptly put in an order to see for myself. Unfortunately, owing to an unexpected run on the 3¼x4 size, the American agents in New York could not fill my order promptly, and it was many weeks before I could obtain enough material to make a partial test. This difficulty has been overcome, now that the sizes most in demand are known, and orders are filled promptly. And here let me give the intending purchaser a warning: If he sends for an outfit of half a dozen plates, he will only receive two viewing screens; and, as a plate only becomes a color picture when bound up with a screen, he can only get two pictures from such an outfit. Therefore one should order extra screens.

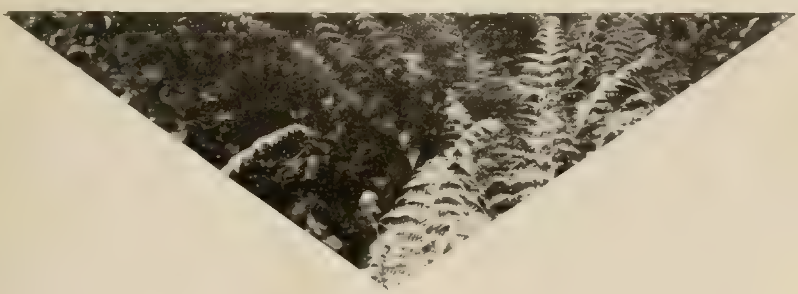
For the benefit of those who have not read the earlier description, let me state that the newcomer, like the first Thames plate, consists of a panchromatic plate which is placed in the camera in contact, face to face, with a new form of trichromatic color screen, through which the image-forming rays must pass. The plate is developed in the usual manner, and from it any number of lantern slides can be made, which last, on being bound in true register with a screen

ALONG THE RIVA—VENICE By GEO. C. MEEKER

similar to that through which the picture was taken, will give a reproduction in color of the original scene. This is quite a simple theory, but how did it work in practice? Very much better than I expected. I have tried them on flowers, landscape, genre and portraiture, and, while I have had difficulties which might discourage an inexperienced worker, I have overcome them and obtained colored lantern slides that are sharper and much easier to project than autochromes, while yet of equal color accuracy to the very best of these latter. When it is remembered that the original negative will also give excellent prints or enlargements having absolutely perfect light values and fine gradation, and that the density of both the original negative and the resultant positives is under full control (the weak point in autochrome making), it will be seen that the Lumiere plate has met a real rival, one destined to occupy a field of its own. These statements I have verified to my own satisfaction.

Now for a few hints based on personal experience. If the colors fail to come out true, especially if they are weak, it is probably due to not getting a fully developed positive. This last must be stronger than is usually made for projection. I nearly condemned the process because my first results were washy; yet the same slides, when fully intensified, gave excellent pictures on re-registration. Secondly, the registration of positive and viewing screen is likely to prove a stumbling block, particularly to the nervous man, who is only too likely to throw the whole thing up in disgust. Yet the registration and permanent binding are a simple matter if gone about rightly. There are two difficulties, not mentioned in the makers' directions, which may easily lead to failure. The geometrical arrangement of all color plates (except the Autochrome) leads to parallax; that is, the correct colors only appear true when viewed in one plane. With the hand-viewed slides, the eye is easily brought into the right position; but if a slide, the registration of which was made with the eye with the plate not at right angles to the horizon, be placed in the lantern, the colors on the screen will be false. The correct registration is easily obtained, either while holding the plates quite close against a window, or better, by placing them on a ground-glass surface with the light reflected upward and through them from below, when the registration is effected with the eye looking directly down upon them. When they are in register, they must be so bound without the least slipping. The makers' directions to bind in the usual way with lantern binding are not easy to carry out, and when it has been done, the contraction of the binding tape in drying may cause a slight displacement, upsetting the colors. I have overcome this in a very simple way, which all will do well to follow. Using the method, just described, of illumination from below, with the plates lying on the glass table, I apply to the edge of the plates a little LePage's glue or Secotine, just as soon as the registration is complete. If the manipulation has put them out of register, the error can be instantly corrected as the glue is still soft, afterwards leaving them until dry, a matter of an hour or so. Once the glue sets, they can be bound with binding tape without the least fear of displacement.

I expect, after further experience, to write more on this subject, but for the present I will conclude by drawing the attention of microscopists to the great advantage of these plates for making micro-photographs of stained tissues. In this field these new plates are decidedly ahead of the Autochrome. Reference to the latter reminds me that A. E. Morton, in the *British Journal of Photography* of December fifth, gives detailed instructions for making, for projection, copies and reductions of autochromes by means of the Paget plate. This suggestion I followed up by some experimentation on my own account, using a somewhat different method to that of Mr. Morton. I placed the autochrome to be copied in a printing frame, on this the Paget color screen, then the panchromatic plate. This I exposed in my vertical enlarging apparatus to daylight, transmitted through the lens, in which was placed the compensating yellow screen. One minute's exposure gave me an excellent negative, sharp, clean and of correct gradation. From this I made a lantern plate and put it in register with a viewing screen. As a black and white slide, it was all right; the grain of the autochrome quite disappeared and its general appearance was satisfactory, but, viewed through the screen, the colors had undergone the same degradation that always follows copying an autochrome on an autochrome. I do not see any way by which this can be altered. In all screen plates, for every colored ray registered, two are stopped and appear on the positive as black silver. When this is again photographed, the loss is trebled and degraded colors must result.



The Flashlight

By E. M. Binkley

With Illustrations by the Author

How fine, and how easy too, it would be to make good flashlight pictures of the little family parties, of visiting friends or of the children as they play in their favorite haunts about the house, if only the first and very simplest rules of photography were followed!

In a majority of homes, the windows are so arranged as to make the taking of groups by daylight most difficult, while it is impossible to make a quick enough exposure inside a house to get the children in their unconscious poses, even with the largest lenses now in use.

Often, too, the little social gatherings happen in the evening, when the flashlight of the party is the signal that the festivities have ended; and, taking the picture the climax of the entire affair, the departing guests mingling with their good-byes the hope that the pictures may "turn out good."

First of all comes the exposure, which must be all the negative will permit without fog or loss of contrast.

Then the developing, which is comparatively easy when the negative is fully timed, but even then must not be carried so far as to black up the highlights. The developer usually used for flashlight work is too contrasty. It should be free from bromide, not be made up with more carbonate of soda than is absolutely necessary, and very dilute. Such developers as Rodinal, Dianol and Amidol are fine when given about twice as much water as usually made up with.

JUST AFTER CHRISTMAS—Lens at f-11; seventy grains powder.

CELESTIAL BUDS AND THEIR TEACHER—Lens at f-4.5; seven or eight grains powder; a little undertimed; properly developed negative.

A good rule is to develop until the image shows on the back of the negative, and then begin examining by holding up to the ruby light, film side to the lamp, always. At first all will be gray; and, as development continues, the high lights will darken. But before the faces, for example, get to look too solidly black, place for awhile in a tray of water before fixing.

When a negative has been under-exposed, it will show only the high lights, as in a group, just the faces, and the temptation to develop longer in hopes of

A CHRISTMAS GROUP—Lens at f-4.5, ten grains powder; flash made behind a screen well forward of camera; proper exposure and development in Edinol-Hydro developer.

finally bringing out even some small detail in the shadows is too strong for even experienced workers, sometimes. But when these faces blacken so densely as to have lost all grayness, then it is hopeless; for, when a print is made from the negative, to show detail in the faces or high lights, the paper must be exposed so long as to entirely blacken all other parts when developed.

When the detail in the shadows do not follow closely the appearance of the high lights in developing the negative, it is useless to try forcing by continued development. Sometimes an under-exposed negative may be improved by placing in a tray of water as soon as the weakness of the exposure has been discovered, covered and allowed to remain in the water for several minutes or longer.

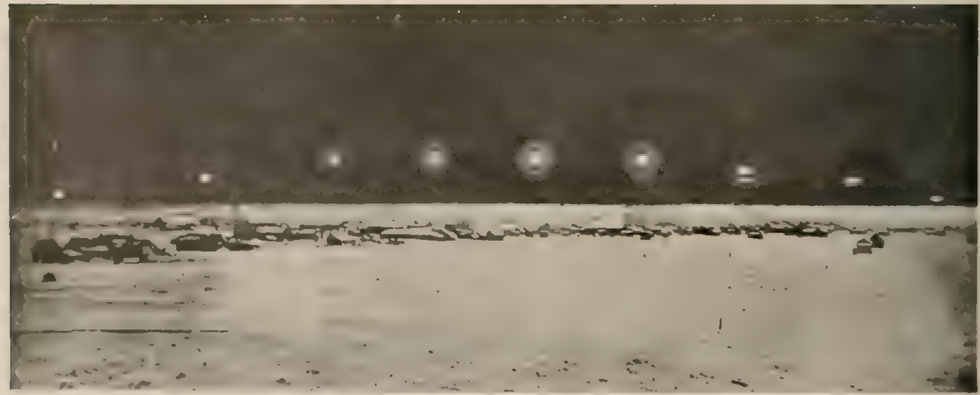
To make a good exposure with an f-8 lens in an ordinary room, with a group of not more than eight or ten people, forty or fifty grains of powder would be necessary; if an f-11 lens, double the amount of powder; or, if stopping down to f-16, four times the amount used at f-8 or double that of f-11.

Unless it be absolutely necessary to get proper depth, the lens should never be stopped down in making a flashlight, since with the smaller opening so much more powder must be used, increasing the volume and annoyance of the flash, until often people are scared so badly by the blinding light and report that they refuse to pose again where there is a flashlight being made.

The flash should be made quite a little to one side of the camera, a little higher and just as far forward toward those posing as possible, while keeping the lens shielded from the light. The nearer the light to the subjects, the greater the exposure, and in this way less powder may be used by keeping forward of the camera.

Since there are so many good flash lamps on the market, and cheap too, it is not a wise thing to do to explode the powder in any other manner, as all danger and accidents help to spoil the joy in photography.

A large piece of white cardboard should be used as a reflector back of the flash lamp; and, if it be at all practical, a piece of muslin could be made fireproof, fastened over a frame and placed just in front of the flash. This softens and gives the light a roundness, taking away the disagreeable shock of the flash without lessening the power of the powder.



THE MIDNIGHT SUN, NOME, ALASKA By W. H. CHURCH
A series of exposures made from 10 a. m. to 2 p. m., January 2nd, 1913.

A Plea for the Record

By Sydney Hotchner

HIS FIRST PICTURE By GEORGE F. DAY
October, 2 p. m., soft light, f-8, fast plate, one-fifth second exposure.

Of all the photographic subjects confronting the tyro in search of assistance, the one to which the least space is devoted is that of record-keeping. Yet, if sufficient trouble were taken to keep and make proper use of a complete record of all his photographs, the beginner could solve nearly all of his exposure problems without the assistance of the innumerable books through which he searches in vain. Even failures, instead of being thrown aside in disappointment, could, second only to his successes, best answer for him the mysterious "Why?" constantly confounding the amateur's first attempts, and which so seldom is answered correctly for him.

Most beginners start out by keeping a record of their photographs, but after taking perhaps a score of pictures they find it easier (and, alas! more fascinating) to forget their records than to analyze so many pictures, taken under such varying conditions. The result is that when they take a picture requiring some thought, they guess—and too often fail without knowing why. If the beginner's record was at his finger tips as it should be, he would remember some photograph previously taken under conditions similar to those obtaining in the picture problem that confronts him. Then there would be no guessing—and no failure, either.

A perfect picture is, after all, as satisfying to the beginner as it is to the more advanced worker; but it should be something more to the former. He should make it his best guide whenever he meets with difficulties caused by varying strength of light and other exposure problems. His previous pictures, as embodied in his record, will answer nearly all of the questions he wants to ask when he takes a picture, if he only would realize it. Just think, brother beginner, how little help to you all the books you have read have been, as you stood ready with your camera thinking how best to take the picture before you. Your little record can answer you best at such a time, so why not give it a chance?

The beginner in amateur photography cannot be too strongly urged to keep as complete a record as his time and enthusiasm permit. If he stopped to reason it out, no argument would be necessary, for he would realize that his record can be made a high-class book of reference, more than repaying him for the extra trouble involved. Many beginners like to make their own record books. Some use the little ruled slips which come with roll films; others use the film-pack tabs; and many buy the little "encyclopedia" exposure-meter books with spaces all ruled off for record-keeping. The latter contain a surprising amount of information and value for the little they cost, although I think the beginner would do much better to try to cultivate his own judgment rather than learn to depend entirely upon the exposure scales they contain, to say nothing of the great amount of guesswork involved. Whatever the reader uses, the most practical record is any kind of a blank book with spaces numbered for as many picture records as it will accommodate. The leaves should be cut away, bank-book fashion, so that one sheet can head all the other pages in the book with the column titles. As prints are made, the records, for greater convenience, can be transferred to their backs; or, if no prints are to be made, to the negative envelopes. This needs no explanation. The reader can follow his own ideas, but a complete record should have the following spaces, with perhaps room for such notations as ray-filter time, et cetera: Number of picture. Subject. Time of day. Light. Aperture. Exposure. All this is mere detail, arranged to suit the taste of the one who uses the record. The important thing is to keep some kind of a record, and to use it.

Let not the beginner argue that his friends, Jones and Smith, keep no records, and yet take wonderful pictures. If the beginner could take such pictures, he probably would not need to keep a record. This is only necessary until the beginner can intuitively and rightly estimate the proper aperture and exposure and judge the light accurately. When his pictures tell him that this stage has been reached, he realizes that his record was one of the stepping stones by which he has graduated from the fascinated and ambitious beginners' class.

No good will come from recording details and then ignoring them. They should be the media for frequent comparison, for in this manner only are they of use. Go through your collection of prints, patient reader, and separate them, say, by apertures, comparing the "depth" of "perspective" which the books so hate to explain. See for yourself the value of the different apertures. Note how the smaller the aperture is the sharper is the "perspective," both in front of and behind your subject; in other words, compare the "depth." Separate them again by hours, and note at what time of day the sun casts the best shadows. Do not look it up in books, but read it in your pictures. Take, let us say, all your afternoon pictures which the record shows were taken in the sun. If you find, perhaps, two similar "still" pictures taken at two o'clock, one at one-tenth and one at one-twenty-fifth of a second, at f-11 or U. S. 9, note which is the best, and remember in future which speed at that stop should be adopted under similar conditions.

Therein lies the secret of success in record-keeping. Your record is useless if you merely jot down data concerning picture after picture, merely to inform photographic friends how your pictures were taken. They will usually inform you that the aperture or speed or something should have been so-and-so, information which a properly studied record would give.

Let it be your best guide, brother beginner, until the time comes when your photographs tell you that you need no longer keep one of those important records.

Beauty is a form of genius—is higher, indeed, than genius, as it needs no explanation. People say sometimes that beauty is only superficial; but at least it is not so superficial as thought. They are only shallow people who do not judge by appearances.—OSCAR WILDE.

ON THE LOS GATOS ROAD By H. E. POEHLMAN

THE SPECTRE

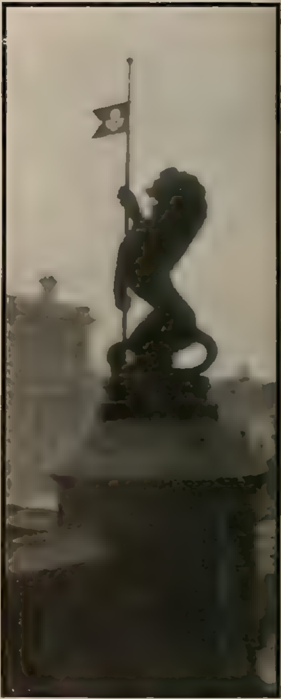
Hopkins Institute

High on a hill her towers
rose
What time she housed the
soul of art;
From threshold unto pinnacle
Supreme her glory, proud
her heart.

Then fate, portentous, struck
her down
In rage for some unknown
offense—
A mausoleum on the height,
The tomb of her magnifi-
cence.

INA L. COOK.

THE STEEP CLIMB TO ART



HIGH ABOVE THE CITY

Are We Learning as We Should?

By E. I. Titlow

With Illustrations by the Author

Do grown-ups need educating more than children? The answer is, Yes, and they are not ashamed to admit it, judging from the continued success of the monthly lectures given by the California Camera Club.

We all need to keep abreast of the epoch-making inventions, such as, for example, motion-photography, which has forced our attention to the short-focus lens and developed the small camera now carried by all professionals. We need to know the principles involved in animated color photography, with its orange-red and violet-blue revolving screens and its uncolored but corrected films, shown at a speed of thirty-two per second. We need to know that millions to the square inch of potato starch granules may be dyed with three colors and made to give us true color plates. We need to talk with the users of hydrazine emulsion and understand and learn the results of one thousand per cent over-exposure.

All this we can get from contact with camera club members as well as through association with artists and workers therein. But is this attrition alone sufficient for our orderly mental training? Is it enough to hear the praises of a particular example extolled by experts without our knowing the underlying principles involved?

Why remain a surface artist, shrinking from technique, refraining from reading text-books on art, and never really taking time to analyze one's own productions? But, you may say, how am I to thus school myself to master this thing I picked up as a plaything and now find grown so big that it almost intrudes on business? The answer lies in that quality of training fostered in Europe, but seemingly fast disappearing in America, called mechanical aptitude.

"WHAT AN OPPORTUNITY TO LEARN PORTRAITURE THE CHILDREN PRESENT"

It is mechanical to prevent the corners of one's prints from getting creased by keeping them in boxes or large envelopes, to permanently mount one's deserving prints, and to lay aside a dollar or so to frame the best one of the year for oneself, not to give away. It is mechanical and pleasant to handle glass negatives that have been encased in envelopes, named but not necessarily numbered and to file them edgewise in simple wooden boxes made at the carpenter shop if one does not like the indexing boxes on the market.

Love of mechanical order, or business sense, will lead one to bind his Camera Crafts as illustrated in the August issue, and a check on memory requires a small but indexed notebook for one's own tried formulæ. Not every formula published is worthy of the trouble, but the processes that one has tried or is using should be noted.

Right here one's mechanical sense should keep him to one developing agent, used at the same concentration until he is quite familiar with its limitations. And to learn the limitations or possibly extremes of anything is to learn the successful medium. Then when one changes to another developing agent, he should learn to which class of developers it belongs,—to the pyro and hydroquinone class, in which the plate shows no detail when withdrawn half-developed, or to the metol and rodinal class, in which the plate shows little or no density, but all the detail, when half-developed.

Learn to develop long enough, if it is intended to make a slide from the negative, but also learn to distinguish when chemical fog sets in; also learn to screen the direct ruby light from the plate between examinations. If this last is done, one can then use a dark-room light by which he can read a newspaper, and can have white walls in the dark-room if he so desires.

A mechanical mind will prompt the getting out of one's work before Christmas, not after New Year. First, sort out the negatives belonging to the contrasty class, those requiring "special" or rapid paper, and print them. Then take the pile of flat negatives requiring "regular" paper. By having the paper in a hinged box and using only one kind at a time, an enormous saving of time is effected. Trying different papers for each negative, altering the printing light, changing the time and the like, all takes time.

The extra flat negatives may be culled out for enlarging on rapid bromide paper, this method often giving one a brilliant print from a flat negative. Prints from some negatives may be absolutely unsatisfactory unless, in the printing, certain parts can be held back locally by means of a mask. This control is most easily and successfully secured in enlarging. And then, do not be afraid of too liberal trimming of your enlargements.

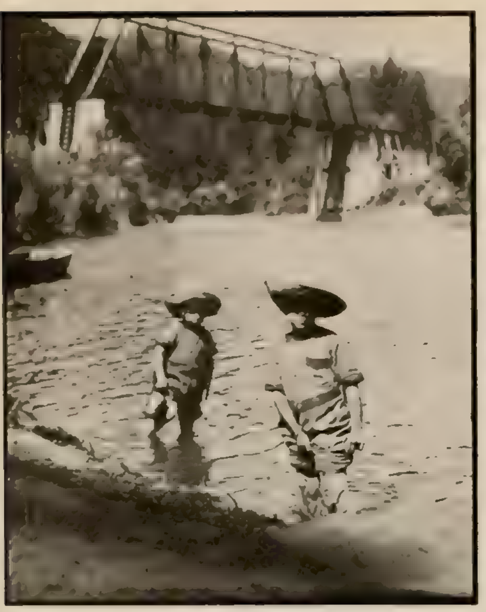
And still another matter: Did you ever stop to think what an opportunity to learn portraiture the children present? It is one of nature's laws for the fond parents to be quite proud of their offspring. Witness our proverbial tabby carrying out her kittens in her mouth for our inspection; the anxiety of our "Moo Cow" for her wabbly-legged gamboler, and lastly, the proud parent passing a soot-and-whitewash snapshot of "Baby on the Doorstep" around for inspection. True, it's a likeness of baby, but why not learn to make a little portrait of baby before it grows into the awkward age?

There are only about three or four requirements; but to the shame of an

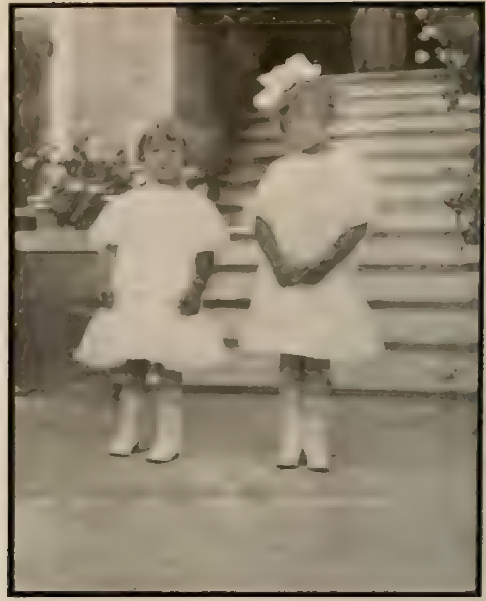
PICTURES OF CHILDREN SHOULD BE UNCONVENTIONAL AND NATURAL

art, capable of so much beauty when rightly employed, only a small proportion of the "Kodakers of Kids" can prove by their prints that they know more than one of these essentials. The average amateur may know when a print is too dark, but he keeps on spoiling sunlit scenes by rendering them with inky black shadows.

First of all, the one seeking to portray child life must learn the limitations as well as the possibilities of his rapid rectilinear lens, which should not be smaller than the 4x5 size, with the 5x7 more preferable for work outdoors where one has more room than in the average dwelling or apartment. I recently examined a hundred or more perfect indoor baby pictures, all taken with a 4x5 rapid rectilinear lens working at f-8 (U. S. 4), exposure one-tenth second, but the lady who took them evidently realized the absolute necessity of the side reflector and had used plenty of reflected light on the shadow side of her subjects. A hydroquinone-eikonogen, two-solution developer was used, and more perfect photographs of children could hardly be desired. No movement showed except in one in which the child was hammering with his fist; but as there were enough poses taken, this was culled out. Seeds 26, not the fastest plate, was used; and, while an isochromatic plate might have given better flesh tints, the subjects themselves were free enough from those country troubles, freckles, to permit the use of glossy papers. The prints gave pleasure from their technical excellence, for it certainly is a pleasure to be able to see the pupils in the eyes



"ONE TWENTY-FIFTH SECOND SNAP-SHOT"



"A PORTRAIT OF TWO CHILDREN"

instead of a shadowy outline. Children have no wrinkles to hide, as have some of their elders, and these prints had no black shadows in the faces, showing that exposure had been ample and development stopped before high lights had begun to "plug."

Of the two prints reproduced above, the one to the left is a typical, average, one twenty-fifth second snapshot; and it, as such, explains why the camera is so often shelved by the purchaser who started out with the idea of making pictures of children that would form a record for future years. "As you see it with the eye, so it will be in the print," one of our professional members insists, but that is hardly correct unless exposure and development be rightly carried out. This first scene was full of contrast and the sun should have been kept out of the faces; a longer exposure given, say one-tenth second, as subjects were posing; and, if developed in the tank, should have been taken out in less than the prescribed twenty minutes. And lastly, if these precautions had proven insufficient, the negative should have been put in the "contrasty negative" bunch to await printing on special or contrast-reducing paper.

The other print, the one on the right, is a portrait of two children. They were placed in the shade, as there was considerable contrast between the white dresses and the faces, and an exposure of one-fifth second given. The rather stiff arrangement is a good example of parental interference in the pose. Hardly more violent contrast could be found in outdoor portraiture than that between the white dresses and the available surroundings, hence the shade of a tree was chosen; yet the dangerously slow time for such restless little subjects, one-fifth of a second, gave good results. This should have had only half the exposure to have caught the children with a more happy and natural expression, just as the parental eye and mind loves to recall them.

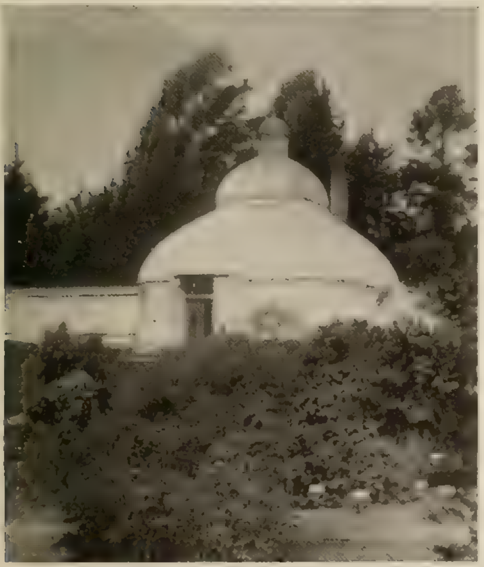
The Soft-Focus Lens vs. The Pinhole

By Percy Neymann, Ph. D.

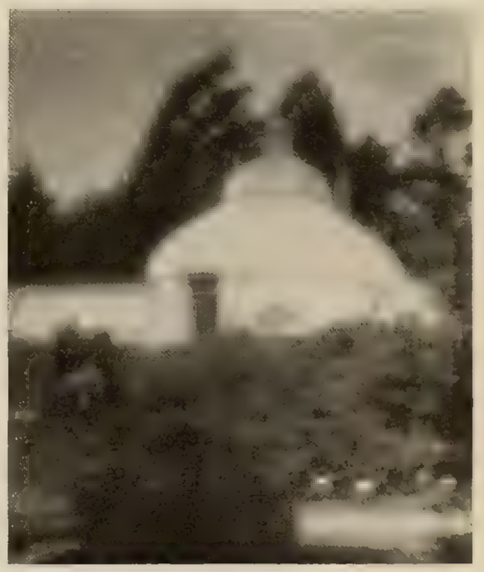
With Illustrations by the Author

In a recent issue of CAMERA CRAFT we devoted some space to the propaganda for lensless or pinhole photography, and equal propaganda has been made from time to time for employment of the diffused-focus or soft-focus lenses. It occurred to the writer that to try to ascertain which method of these two is best adapted to the producing of pictorial work, which method produced the most natural and at the same time the most pleasing photograph, would be interesting. The market offers several diffused-focus lenses, but two only were tried, one a doublet, the other a single lens. Comparisons were made with these two lenses, as they represent two distinct types, and a judgment as to which is the better can only be rendered on the basis of individual preference of the quality of work produced. Hence we abstain from any comparison between the two lenses, and confine ourselves to the comparison of pinhole and soft-focus effects. We also refrain from any comparisons of studio or portrait work, as the pinhole, owing to the necessarily long exposures, is, in this class of work, out of the question. · Results seem to indicate that the work of double lenses is preferable, for portrait effects, to that produced by the single lens.

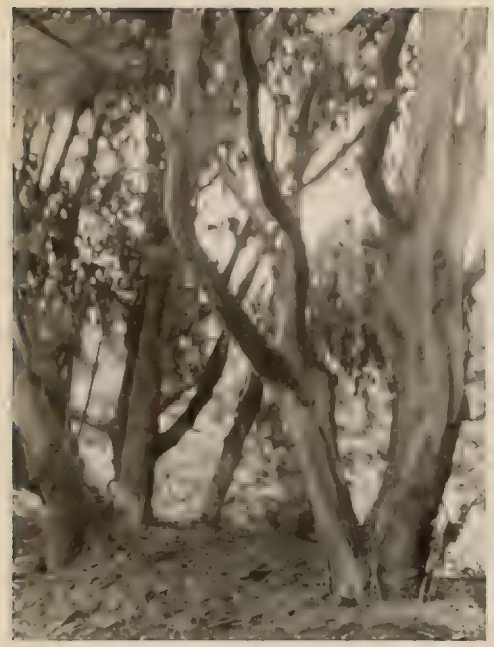
The disadvantages of the pinhole are all due to one cause only: long expos-



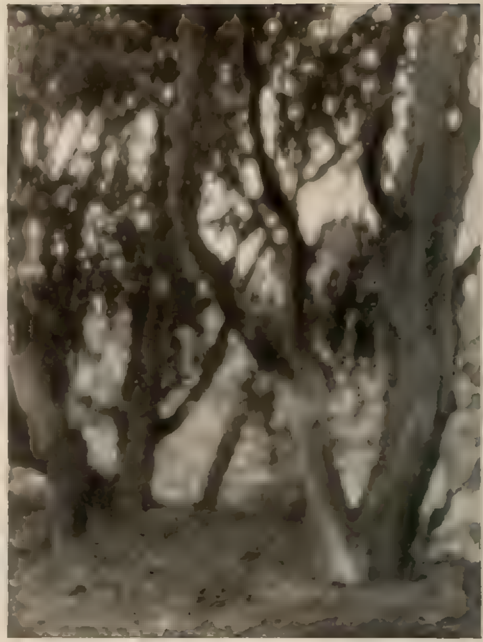
EXAMPLE 1: CONSERVATORY, UNIVERSITY OF CALIFORNIA—Pinhole No. 6, September, 11 a. m., ten inches extension, six minutes exposure.



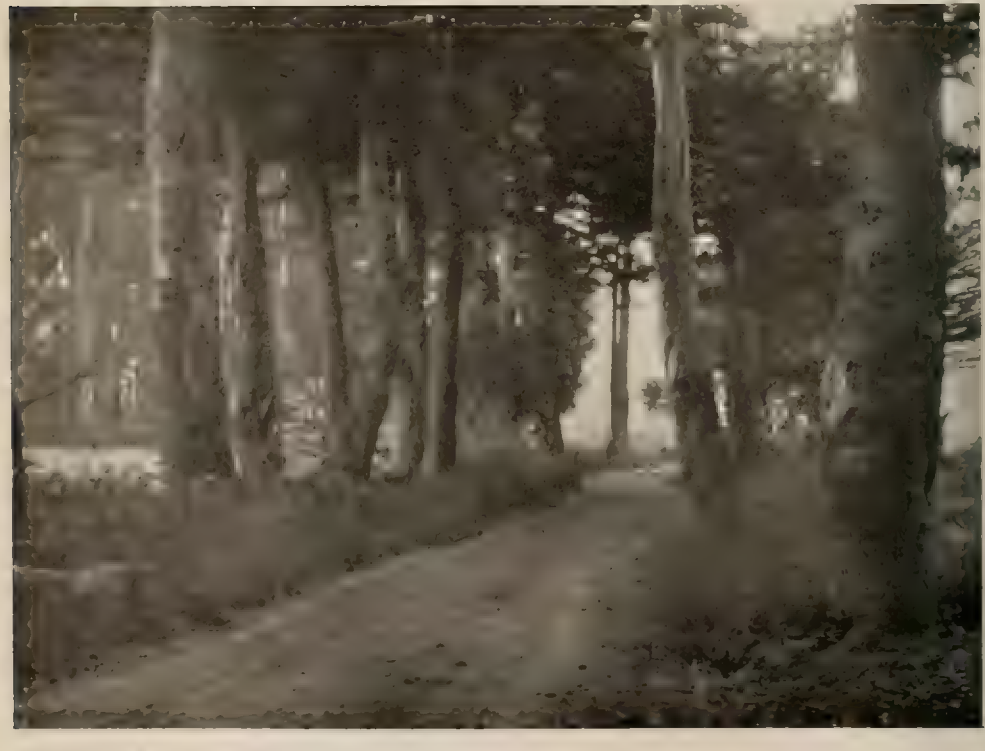
EXAMPLE 2: CONSERVATORY, UNIVERSITY OF CALIFORNIA—Single lens, September, 11 a. m., f-11, one-fifth second exposure.



EXAMPLE 3: EUCALYPTUS—Pinhole No. 6, September, 9 a. m., ten and one-half inch extension, sixteen minutes exposure.



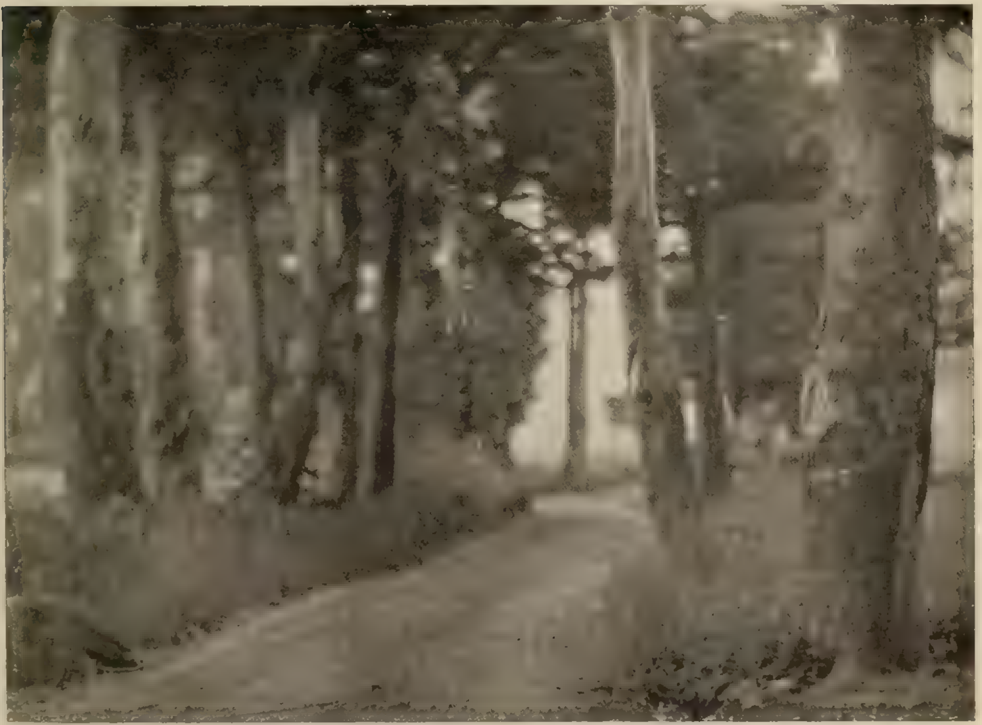
EXAMPLE 4: EUCALYPTUS—Single lens, September, 9 a. m., f-9.5, one-half second exposure.



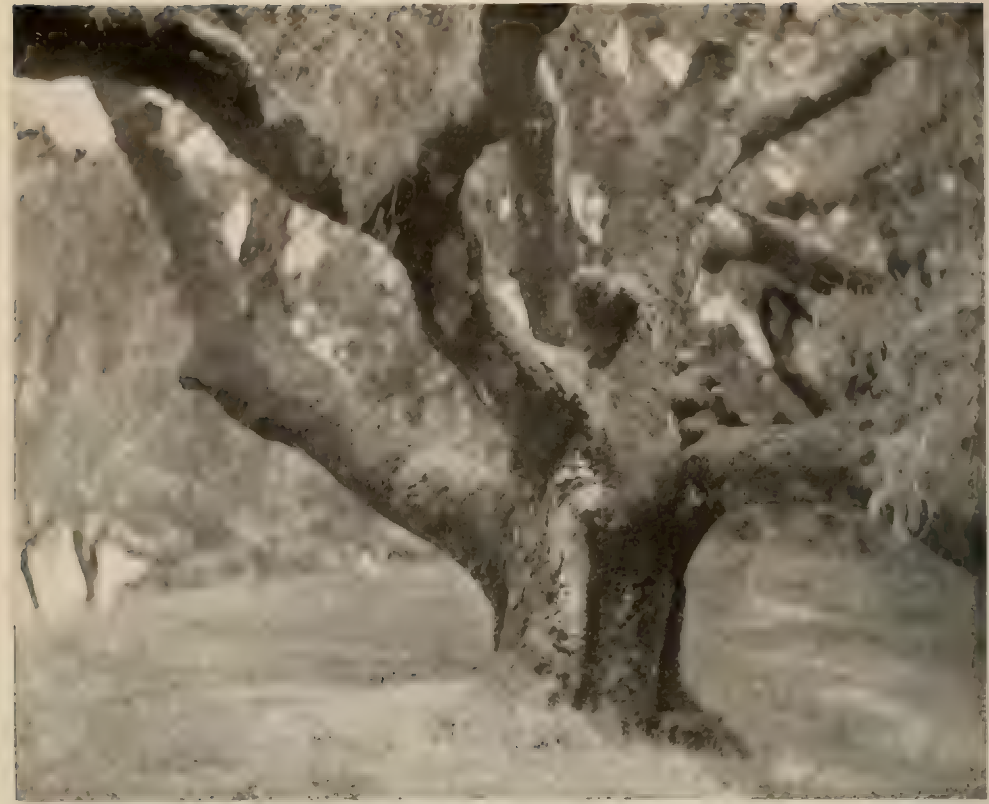
EXAMPLE 5: ROAD NEAR TOBIN—Pinhole No. 6, September, 9 a. m., eleven-inch extension, eighteen minutes exposure.

ure. This eliminates the photography of anything in motion, and very frequently this motion is due to wind or air currents. Marine views suitable for pinhole work are scarce, as nearly all such views include either vessels, figures, or water, in motion. Let it not be understood that the general aspect of water is destroyed, but the water in a pinhole picture is at all times flat and characterless. In a measure this disadvantage also applies to the diffused-focus lens, when stopped down so that the degree of diffusion or fuzziness will be approximately that of the pinhole, as frequently there is then not light enough to admit of a rapid exposure.

The advantages of the pinhole are: 1. Unlimited depth of field; any object in front of the pinhole, at any and every distance, is projected upon the plate without distortion or loss of detail. 2. Practically no limit to the angle of view; the width of angle being limited only by the proximity of the plate to the pinhole, and the resultant loss of light at the margins, while the extreme narrow angle is limited only by the length of bellows. 3. The very small expense of the pinhole lens; the negligible danger of damage to the original low cost pinhole, as compared with the price of and the constant danger of damage to the optical lens, either from lack of care or from abuse and accident. 4. The rendering of sufficient detail without obtrusive hardness or diffusion enough to be termed violent and distortive. 5. The more temperate rendering of color values and of extremes of high light and deep shadow, hence avoiding extreme contrasts and blocking of details. 6. The more natural and the more truthful representation of an object or a view, as represented to the human eye.



EXAMPLE 6: ROAD NEAR TOBIN—Double lens, September, 9 a. m., f-5.6, one-half second exposure.



EXAMPLE 7: MONARCH OF THE GROVE—Double lens, August, 2 p. m., f-6.5, three-fourths second exposure.

The disadvantages of the soft-focus lenses may be mentioned as follows: 1. Flatness of field, especially with the double lens. 2. Difficulty of sharp focusing on the ground glass, especially with the single lens. 3. Halation, at times sufficient to badly mar the result, particularly with the single lens. 4. Very large size of barrel and lens. 5. Distorted rendering of image, in particular when used at the large openings.

As against these there are the following undoubted advantages: 1. Extreme speed at large openings. 2. Degree and variety of diffusion obtainable with the different stops. 3. Conversion to the character of a good lens, giving sharp and detailed images, by use of the smaller diaphragms. 3. Splendid results in portrait work. 4. Unlimited versatility for enlarging.

Comparison of example 1, which represents a production via the pinhole route, with example 2, obtained with a single, soft-focus lens, will show that the detail is very much better, that there is softness without distortion, and detail without objectionable sharpness or exaggerated diffusion. The latter shows halation around the entire cupola or dome of the conservatory, a white building with dark green trees behind it. To the writer the pinhole picture is eminently more desirable. Example 3, a pinhole picture, which, compared with example 4, a single, soft-focus lens product, shows a decidedly better ensemble than the latter. Stopped down more, the lens picture would have shown more detail and the halation spots would have been less prominent, but there would still be lacking the soft detail so characteristic of pinhole pictures.

Example 5, another pinhole, compared with example 6, a product of the double, soft-focus lens, demonstrates that the pinhole produces a photograph with foreground, main theme and background having equal detail and definition, while the lens accentuates the object focused upon, and so diffuses the balance of the picture as to make it indefinite. The work of the double, soft-focus lens seems to be more pleasing than that of the single, and this last example, with its one plane accentuated, has a most pleasing stereoscopic effect.

There are times when accentuation or bringing into prominence certain parts of a composition is desired and sought, and the soft-focus lens will achieve this without undue harshness. Example 7 illustrates a case of this sort; but for general pictorial work, for true rendering of impressions gained through the human eye, for unobtrusive detail and general softness, the pinhole has not, in the opinion of the writer, been improved upon, and the advantages it offers for pictorial work appear, to the writer at least, to exceed those offered by the soft-focus or diffused-focus lens.

Twenty-five Years in Photography

By Edward H. Kemp

I remember to this day my first initiation into the Mystic Art of Photography. A small cardboard box with a dry plate at one end and a pinhole at the other, given me by a relative, first aroused my interest, and soon my mind was thoroughly made up to take the plunge and purchase a real camera. However, the opportunity did not offer until the day before I was to sail for America for the first time. I visited a nearby toy-shop and there purchased a mahogany contraption, 4¾x6½ in size, without adjustment of any kind. The perfectly plain but richly polished, brass-mounted front was still further ornamented by a single meniscus lens of large dimensions, mounted in brass with a brass cap; while the one elaborate book-form dark-slide was a joy to behold as an example of the cabinetmaker's art.

Having obtained possession of my instrument, I went aboard ship with it as my most cherished possession; but, strange to say, I was afraid to take it out of the wrapping paper. For the four weeks of my voyage it was rarely out of my hands, and never out of my sight, yet I landed at New Orleans with my beautiful photographic outfit still with its original wrappings intact.

Then came the journey by rail from New Orleans to San Francisco, during which my most serious concern involved watching over and caring for my beloved camera and protecting it from dust, always fearful that it might get a knock of some kind that would mar its highly polished mahogany surface. Once only on the railroad trip was I induced by a passenger to open it up and show it, but I was greatly relieved when able once more to replace the paper and tie it up in the original coverings. Finally, San Francisco, and my friend's home where I was to stop, was reached, still with the paper intact, also without having made any attempt at an exposure, although I had with me a full supply of plates and chemicals of all kinds.

All this while I had been eagerly reading and absorbing my one small book of directions, received with the instrument, and such other literature bearing on the subject as came my way, meanwhile obtaining a fine assortment of bottles and mixing all my chemicals in readiness for the first attempt.

Finally the psychological moment arrived; in fact, I was more or less forced to it by being given a commission to photograph my friend's house on the side of Russian Hill. Imagine the result with a camera without a swing of any kind or even so much as a rising or falling front. I had the most beautiful example of an inverted keystone with curved sides possible to behold; but detail, it was perfection, and I knew, then and there, that my education was complete; that I was a full-fledged Photographic Artist.

From this time on my advance was rapid, my camera went along on every outing, and the production of negatives of groups and scenery were regular weekly occurrences. More elaborate developing and printing facilities were purchased and installed, and I rapidly got to the point where I was silvering and fuming my own albumen paper and experimenting in various methods of combination printing. Such minor matters as burning a hole through a tablecloth through the use of sulphuric instead of sulphurous acid, or almost suffocating the household by ammonia fumes, never for a minute dampened my ardor.

Then came the desire for size and I bought an 8x10 American box, and every holiday saw me with the instrument strapped to my back, taking long walks in the country or climbing nearby mountains, Tamalpais, Mount Diablo, etc. But even this did not satisfy, and my mind was bent on one grand crowning achievement, the climbing of Mount Shasta. In preparation for this event, I purchased an 11x14 camera with six plate-holders, and packed the outfit in a knapsack to carry on my back. On one Fourth of July the opportunity came, but, alas! the spirit was willing, but the flesh was weak, and my glorious effort resulted in a dismal failure. With the weight imposed, it was impossible for me to climb the steep slope. As I would not go without my beloved instrument, I never got beyond the timber line; in consequence, my conquest of Shasta remains uncompleted to this day.

From that time my advancement in the art was one of retrogression as regards size; I rapidly went backwards through the 8x10, 6½x8½ and 5x7 sizes, finally settling down to 4x5 as the most generally useful all-round size, and this I have continued to use to this day.

In the early days my favorite method of reproducing the negative was on plain paper, silvered by myself, a number of specimens of which were saved from the San Francisco fire through being out of the burned district. These I have recently come across, and the quality of the prints still remains unchanged, although made over twenty years ago, which speaks highly for the permanency of this still beautiful process. I, for one, greatly regret that plain silver printing has almost become a lost art.

So much for the retrospect of Photography. What has the future to offer?

Animated Photography today is exactly in the same position to the ordinary photographer as was amateur photography twenty-five years ago. Undoubtedly the popular work of the future will be along this line. With the expiration of various patents that shortly take place, this branch of the art will be thrown wide open and made cheap enough to be indulged in by any one. Even today it is quite possible to purchase a good moving-picture camera of small, compact size, one using one hundred foot lengths of standard film, for seventy-five dollars, no more than many an advanced amateur spends for an ordinary hand camera.

With the more general use of the animated camera, the charges for developing and printing the positive will surely become reduced and the price of unexposed negative film be lowered until the exhibition of moving scenes of family doings and living portraiture will be common to nearly every home. The day is not far distant when we will be able to hand down, as cherished heirlooms, moving-picture films of ourselves and relatives, that, when exhibited in time to come, will be like coming back to life to our descendants. Possibly this sounds uncanny and weird because we are unused to it, but still, I reiterate, it is bound to come.

I maintain that today, for people who can afford it, animated portraits are to be preferred as being the only absolutely lifelike method of depicting our friends as we really see them in every-day life. How few of the ordinary still portraits have this charm!

So, with this slight glimpse into the future, we close by making still another prophecy that, in the not far distant future, it will be quite possible to see on the screen, stereoscopic moving and talking pictures in natural colors.—Utopia.

Some Industrial Applications of Photography

By J. P. Zipf

With Illustrations by the Author

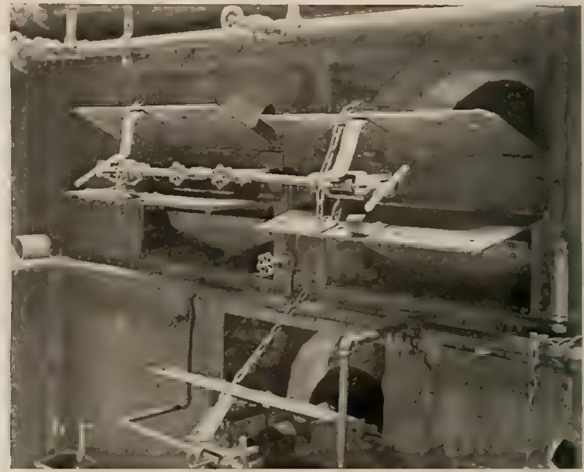
Photography serves the ideals of one person and the necessities of another. The latter is most realized in the industrial field. Its application to the recording and transmitting of knowledge has placed it on an equality with printing, for in many instances one photograph may convey more information than several pages of typographical matter. As a most advanced example, the amount of information supplied to a map-draftsman by a set of photograph-survey prints can hardly be over-estimated.

To know what to photograph is fully as essential as to know how to photograph it; and it is for this reason that many of the largest industrial concerns have established, as a necessary adjunct, photographic departments whose work includes everything of a photographic nature, from shop blue prints to the portraiture accompanying the annual report.

The idea of making a series of "progress pictures" is not new, as it has been followed since photography was placed on a commercial basis. Such a series may be of great value in the event of a lawsuit arising out of the disagreement of a contractor and an architect; they may be of value in indicating certain improvements in later undertakings, or they may be the means of winning a prospective customer on the basis of experience and satisfaction.

"Progress photographs" devoted to a process of manufacture have recently been mentioned in the photographic press. In the finishing of some intricate part of a special machine, certain methods may be employed which might be forgotten when subsequent similar work was undertaken. The photographs would enable any first-class mechanic to repeat the job; while, if no record had been kept, considerable energy might be spent in re-devising the operations.

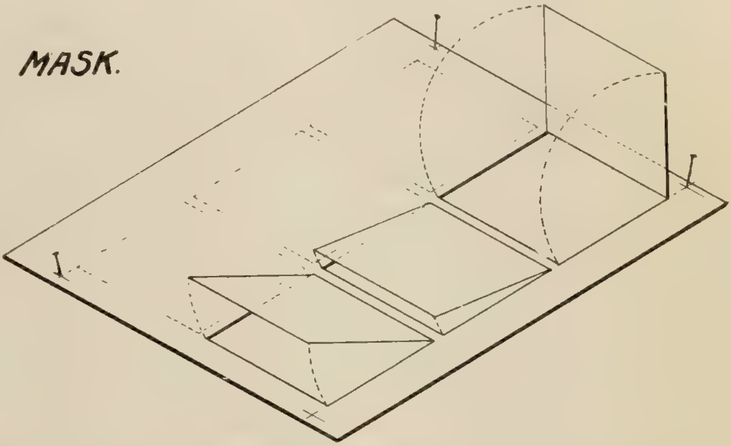
"PITTED" BOILER TUBE


FURNACE FRONT—OIL BURNER

One of the most interesting examples of the worth of an industrial photograph happened in the case of an English steamer which arrived at San Francisco with several of the blades of the propeller badly bent, the cause being unknown. Repairs were undertaken, but not before photographs of the damaged parts were secured, as no amount of descriptive matter could give the owners an adequate idea of the damage and thus confirm the incident expense of repair.

At times considerable ingenuity is necessary to secure even a passable photograph. One illustration herewith shows the furnace front of a well-known oil burner. It is constructed of steel plate, painted black, illuminated strongly from overhead, and is altogether a poor subject to photograph. Nothing of the interior construction could be seen. To illuminate the brick rings and cone-shaped deflectors, it was necessary to burn oily waste in the furnace in such a position that no direct light reached the lens. An exposure of forty-five seconds, stop f-16, on a Cramer double-coated plate, gave the result as shown.

In connection with evaporative tests with the burner mentioned above, there were made six photographs to accompany the report. These were printed on one sheet of 10x12 bromide paper, the result being much better than if the six photographs had been made separately and mounted on a sheet of mounting-board. To achieve that end, a cardboard mask was made, having portions cut out as shown in the accompanying sketch. Each print was made in an enlarging lantern, and printed in the space it was to occupy, the flap on the mask being held open during the exposure. In this way only that portion of each negative which was essential was used. The mask, with the flaps down, protected the rest of the bromide paper during the exposure of the individual pictures, and also insuring even, white margins and spaces between the separate prints making up the page.



After three prints arranged in a vertical row had been made, the mask was turned around, but in so doing, however, the pinholes through which the mask and paper were pinned at each printing, had to be correctly located in order that the margins would register neatly. For binding, a wider margin was trimmed on the left side of the print, so by making the pinholes over eleven inches apart (the standard letter sheet being 8½x11 inches), there were no pinholes in the sheet after trimming.

It is necessary to have the vertical lines in each photograph parallel to the vertical marginal lines, as well as to have each exposure correct, for the sheet of bromide paper is not developed until the six photographs are printed in their proper place.

The second photograph shown is not a view of the surface of the moon, but that of the interior surface of a boiler tube which has been badly "pitted." The tube, which is four inches in outside diameter, was slit lengthwise to expose the interior. A rapid rectilinear lens of six and three-quarter inches focal length was used on a camera of 32-inch draw, the image thus being considerably enlarged. A small stop was used, about f-100 in reality, on account of the long extension, on the diaphragm scale, because the tube surface was concave. The color ranged from dull, rusty brown to sooty black. The exposure given was forty-five minutes, illumination being all that could be secured through an open south window on a cloudy November day. This also was made on a Cramer double-coated plate of medium rapidity.

"The faults of a work of art are the faults of its workman, and its virtues are his virtues."—JOHN RUSKIN.

Photographic Astronomy

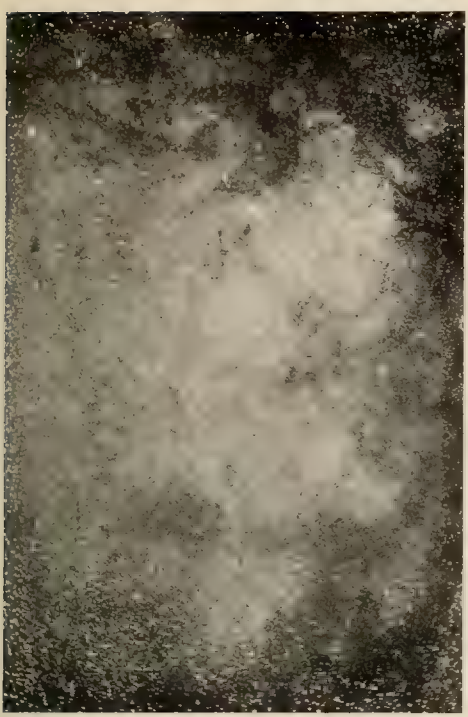
By F. H. McConnell

With Illustrations by Prof. E. E. Barnard

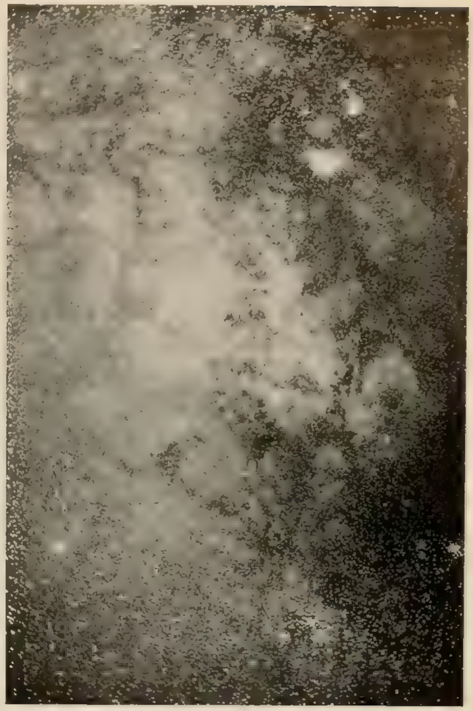
The importance of photography as an aid to the study of astronomy was recognized even in the days of the wet plate, but on account of the want of sensitiveness and difficulty of manipulation that characterized these plates, little was accomplished with them. Upon the advent of the gelatine dry plate about the year 1882, the real advance began to be made, and since then so much has been achieved as to constitute what may well be called the "New Astronomy." In fact, to such an extent has photography entered into the work that, at some of the largest observatories, visual observations have been almost abandoned in favor of the sensitive dry plate. This can easily be accounted for when we consider the fact that while by visual means as much can be seen in a few seconds as it would be possible to see in any length of time, with the sensitive dry plate, the longer it is exposed the greater will be the number of fainter objects which will make their impression upon it. An example of this will be seen in the accompanying reproduction of a photograph of part of the Milky Way, taken some time ago by our fellow member of the Camera Club, Prof. E. E. Barnard, now of the Yerkes Observatory in Wisconsin, a photograph that has not, as yet, been surpassed. In that portion of the sky embraced in this picture, probably less than a dozen stars could be seen by the naked eye; whereas, by an exposure of four hours and thirty minutes, the sensitive plate searched out the countless number shown in the photograph. As has been said, the achievements in astronomical research since the introduction of photography have been so numerous that it will only be possible to merely mention a few of them here, without attempting to go into details.

The astronomer's camera is the telescope. These are of two kinds: the refractor, which has the lens, or object glass, at the upper end of the tube and the eye-piece or magnifier at the lower end; and the reflector, which has almost the reverse arrangement, having the concave mirror or reflector at the lower end of the tube and the eye-piece at the upper. These are of about equal value for visual use, but for photography, the reflector is much superior, mainly because it does not decompose the rays of light, but reflects them from its highly polished, silvered surface to the eye-piece, free from color and of equal wave length. This last the refractor does not do so perfectly; and, as the reflector can be made of very large size and at less expense than the former, it is quite likely that it will be the telescope of the future. It is thought that the limit of size for the refractor has been reached in the forty-inch lens of the Yerkes Observatory in Wisconsin.

In making an astronomical photograph, the sensitive plate takes the place of the eye-piece; and, the telescope being fitted with an equatorial mounting



THE MILKY WAY NEAR THE CLUSTER MESSIER II. By Prof. E. E. Barnard. Six-inch portrait lens, four hours thirty-five minutes exposure.



MILKY WAY IN SAGITTARIUS. By Prof. E. E. Barnard. Three and four-tenths inch portrait lens, three hours and fifty-eight minutes exposure.

and driven by clock-work so as to counteract the motion of the earth on its axis, the image of the object is kept stationary on the plate during exposure.

Probably one of the greatest achievements of the combination of photography and astronomy will be the obtaining of comprehensive and accurate maps of the stars, maps which can be relied upon and used for comparison at any future time. Work along this line is still in progress and will take some years to complete. As the photographic plate gives a permanent record, very accurate measurements can be made and changes noted, both of which were very difficult before photography was employed.

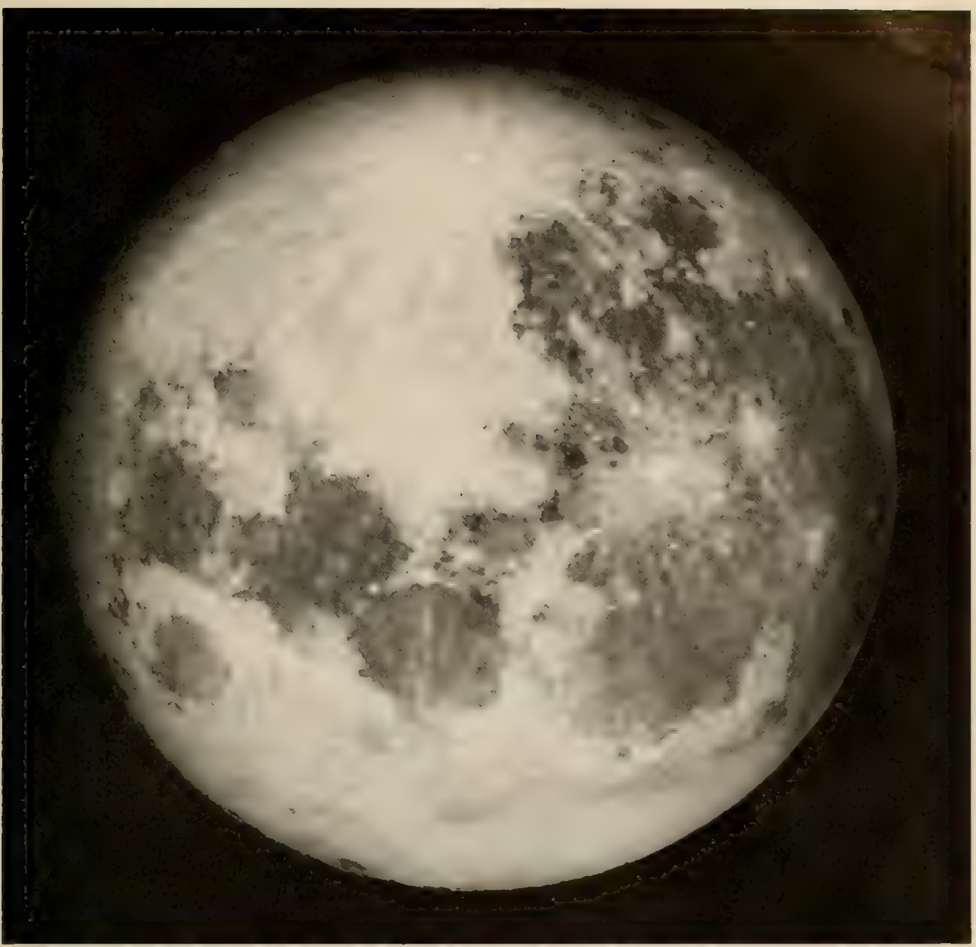
Instead of laborious drawings of the great nebulæ that, although made with much care, were very unreliable, through photography true and beautiful pictures of them have been obtained, and many discoveries of smaller nebulæ have been made. These latter are found to be very numerous and of many forms, some in the shape of rings and spirals, and these, it is thought, may be other solar systems in course of formation. Photography has also made possible many observations and discoveries of double stars, great suns revolving around a common center, many of them much larger than our sun but appearing to the casual observer as one star. Those mysterious visitors from the realm of space, the comets, have been subjects of innumerable photographs and their progress and changes have been recorded very accurately. Some of these changes are remarkable and would not have been believed possible except for the undeniable evidence of the photographic plate.

But there is another instrument, which, in conjunction with the camera and the telescope, has been the means of some wonderful discoveries, namely, the spectroscope. Attached to the eye end of the telescope, the rays of light enter it through a narrow slit, either passing through a series of prisms or being reflected from a diffraction grating. If the light be then projected onto a white wall or screen in a darkened room, it forms a beautiful band of all the colors from red to violet and beyond. The spectroscope is constructed in such a way that a sensitive dry plate can be inserted and a photograph made of this spectrum band, the study of which has resulted in many astonishing discoveries, discoveries that would otherwise have been impossible. It is found that this image of the spectrum is crossed by many dark lines, and that each line, according to its position, denoted the particular substances present in the source of the light. For instance, if sodium be present the sodium line will be visible in its own position, and the same with other matter. By making a spectrum of some known substance and comparing it with that of, say, a star, it can be ascertained if that substance is present in the star. It is also found that these lines are displaced slightly towards the violet end of the spectrum if an object is approaching in the line of sight, and to the red end if it is receding; the amount of displacement indicating the rapidity of motion. It has been demonstrated that all celestial bodies are in motion, even the so-called fixed stars moving, some of them with inconceivable rapidity, the star designated as 1830 Groombridge traveling at the rate of over two hundred miles per second. Even our sun, which is one of the smaller of these stars, is moving through space, together with the whole of our solar system, at the rate of about twenty miles per second. All of these stars are at such immense distances from us, the nearest, Alpha Centauri, being between twenty-five and twenty-six millions of millions of miles away, that even the largest telescopes make them only a point of light. Our knowledge of them is therefore limited.

The study of our own sun and planets yields us much more information, and our knowledge of them is certainly, to us, of much more importance. The study of the sun is a subject in which we are all vitally interested, for, were all the other celestial bodies destroyed, we might possibly survive, but the slightest change in the sun would immediately affect us. For that reason the sun has been studied and photographed, in all its aspects; the corona during eclipses, the great sun flames extending hundreds of thousands of miles from its surface, and the many other phenomena connected with it. All have been very minutely and thoroughly investigated, and these studies are still proceeding. Solar observatories have been established, which, together with their staffs of astronomers, are almost solely devoted to the study of the sun.

Photography and the spectroscope enter largely into those studies. One of the important features of the sun is the spots which appear on its surface at irregular intervals. If there is any law governing their appearance, it has not yet been discovered, but if such law exists, its determination would be important knowledge for us, as these spots are generally supposed to have some influence on the earth's climatic conditions. All these investigations are extremely technical and it will be impossible to here enter into them at any length.

Our own faithful satellite, the moon, has also been the subject of much



THE MOON—Age fourteen days, one hour. Exposure ten hours, seven minutes. By Prof. E. E. Barnard.

careful study since the beginning of astronomy. The first small telescopes revealed much detail, but the ideas of the observers, as were the ideas on many other subjects in those days, have since proven very erroneous. They imagined that the dark spaces which can be seen on the accompanying pictures were seas, and accordingly named the largest of these the sea of tranquillity, the one alongside it the sea of serenity, and so on. The innumerable craters were also given astronomical names; the largest one, which is sixty miles in diameter, they called the crater of Copernicus. These names are still used, although we now know that the moon is totally devoid of moisture or atmosphere; in fact, that it is a dead world, in a condition toward which our earth is probably tending. Many beautiful photographs have been taken of the moon and it would seem that very little concerning it remains to be discovered. All the ancient superstitions concerning it have been dissipated and it is now settled that about all the influence it exerts on the earth is to give us the tides of the oceans and to supply us, during a part of the time, with moonlight, or rather, with reflected sunlight, at night.

Mars, our near neighbor, supposedly approaching the condition of our moon, has been the subject of more discussion than any of the other planets. Some astronomers affirm that they can see lines running in certain directions over the surface of the planet, and they have thought these lines to be canals, constructed by intelligent beings in order to conserve and distribute the decreased water supply. Other astronomers deny the existence of any such lines, or canals, and claim that Mars is almost if not wholly devoid of atmosphere or moisture, but neither visual observation nor photographic records have so far definitely settled this matter.

The gigantic planet, Jupiter, is evidently in a newer state of development than Mars; as photographs have shown that the equatorial belts are revolving more rapidly than the polar regions, so that it is probable that it has not yet reached a state of solidity.

Saturn, the most striking member in our solar system, with its rings and satellites, is, as yet, imperfectly known to us. The spectroscope has shown that the rings are revolving rapidly around the planet, the inner rings with greater rapidity than the outer, and this indicates that they are composed of numerous separate particles.

There are, of course, many unsolved problems in astronomy and there is no doubt that with the future improvements to be made in astronomical instruments and the advancement in the "Craft of the Camera," many of these problems will be solved. One mystery which has received some attention is that enshrouding the form and extent of our universe. It may be that from some distant universe ours may appear as only a star cluster or even a nebula. These universes may be continued throughout unending space. In the endeavor to comprehend these stupendous realities the human mind soon realizes its limitations, but certainly the contemplation of them does not tend to increase our conceit about ourselves or this grain of star dust which we inhabit.

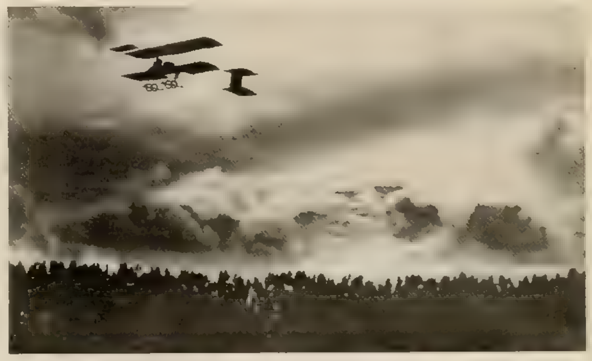
The difference between the spirit of touch of the man who is inventing, and of the man who is obeying directions, is often all the difference between a great and a common work of art.—JOHN RUSKIN.

SOME POSES BY "SNUFF," THE JAPANESE POODLE By M. F. SIMON

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

WHEN NOT TO USE A RAY FILTER: With the filter in one's pocket, the critical time may come when one is uncertain whether the clouds in a landscape require its use or not. The answer, in the case of the accompanying print, is, "Decidedly not." The filter is intended to correct the over-actinic blue sky, and not for use where there are great enough contrasts already, as with clouds against a brilliant sky presenting their shadow sides to the lens. Another case where one should not use a ray filter is on sunset clouds, particularly over waves, even though the sky be blue, for the clouds then show their shadow side, and therefore afford ample contrast.—E. I. Titlow, C. C. C.



PAULHAM FLYING AT TANFORAN

A GOOD FIXING BATH: One that has given me satisfaction on account of its good action is made up as follows:

A:	Water	96 ounces
	Hypo	32 ounces
B:	Water	32 ounces
	Chrome alum	2 ounces
	Sodium bisulphite	2 ounces

For use, take of A thirty-two ounces, and of B, nine ounces.—N. Saghalinoff, C. C. C.

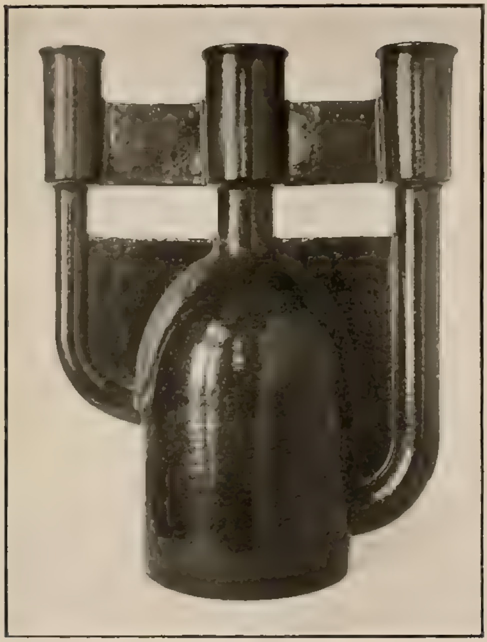
BRILLIANT PRINTS: Developed prints, bromides and others, when wet, have great brilliancy and charm, but when dry are often dull and lifeless. To restore the brilliancy, apply to the dry print, with a brush, this varnish:

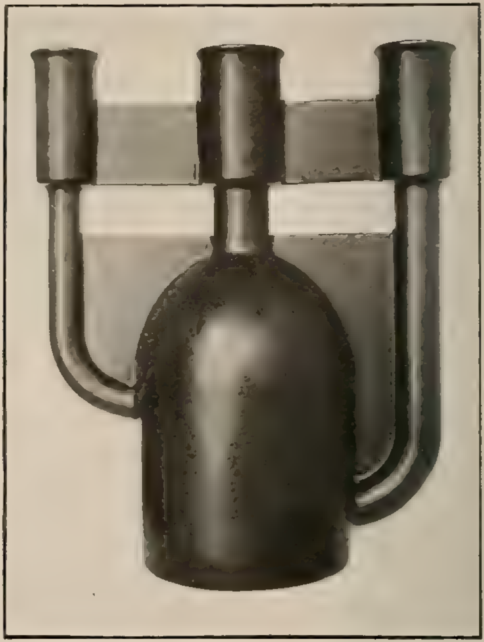
Gum sandarac	1 ounce
Oil of lavender, true	½ ounce
Alcohol	8 ounces

Such treatment is of course not always desirable, but certain kinds of subjects appear more pleasing when so treated.—S. N. Purnell, C. C. C.

RULING THE GROUND GLASS: If one will rule off his ground glass, using a slate pencil, into nine equal parallelograms by drawing two equidistant lines from side to side and two from top to bottom, he will find them to be of great assistance in properly placing the principal object in his views and in obtaining pleasing compositions. The chief object of interest should be placed where any two lines intersect, these being the strong points.—S. N. Purnell, C. C. C.

PHOTOGRAPHING GLAZED SURFACES: The illustrations herewith show a pulsometer, a glazed pottery piece, one of many brought me recently to be photographed. The first example, the one at the left, shows the object photographed in the usual manner with correct exposure and development that resulted in a perfect negative; that is, except for the rather obtrusive reflections due to the highly glazed surface. The picture at the right is the same object photographed a few minutes later with the same exposure and development, the difference being due entirely to the going over of the surface with a ball of fresh putty, dabbing it on as evenly and uniformly as possible. No retouching whatever has been done on either of the negatives or prints, the lines in the angles formed by the septums joining the body and stems being due entirely to the catching of the light in these places, despite the application of the putty. It is obvious that the last is the most pleasing picture of the subject and the one that most nearly suggests the material. The same method of slightly obscuring the surface is particularly suitable to highly polished metal articles, but this is the first time I ever had occasion to try it on a subject such as this.—Walter A. Scott, C. C. C.





Art is man's thought expressed in his handiwork. The course of art has left a great series of documents for the history of civilization—W. R. LETHABY.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

Vol. XXI **San Francisco, California, March, 1914** **No. 3**

The Convention in 1915

The 1915 Convention of the National Photographers' Association of America will be held in San Francisco in 1915; that is, if a proper presentation of this city's claims for the honor will bring it here. Despite the fact that the photographers of this State have not held a convention for several years, they are at all times ready to answer the call for concerted action, and the call has been made. There is a strong State organization with funds in the treasury, and an enthusiastic and enterprising body of photographers back of it. The Convention at Atlanta will find California represented and the claims of San Francisco for the 1915 Convention ably presented.

Another California Camera Club Edition

As advised last month, much more material and pictures were contributed by the members of the California Camera Club than could be used in that issue of our magazine, the last number, which, as explained, took the place of the Club's Second Annual. The result is that the present issue, like the last, is made up entirely of the work of the members of this large and enterprising photographic organization. The California Camera Club can well be proud of the ability shown by its members in the matter of producing instructive and interesting articles and pictures suitable for a publication such as ours, a publication that we believe is conceded to rank quite high in the photographic field. Our readers had many kind words of appreciation to offer concerning the February number, and we believe the present issue to be fully as capable of earning their approval. The Editors, both Mr. Purnell and the regular incumbent, Mr. Clute, wish to express their appreciation of the handsome manner in which the members came forward with their contributions; and both gentlemen wish to express their sincere regrets that it was impossible to use all the good material placed at their disposal in any other way than by running this second issue as a like production of the Club membership. Obviously, some of the members had to be disappointed in the matter of being represented in the last number; but, by making this present issue as much of a Club production as the last, we hope they will feel that both Mr. Purnell and ourselves have done the best possible to secure for their work and the California Camera Club the credit which their handsome response to a request for articles and pictures merits.

Mr. Leonard on the Coast

William A. Leonard, well and widely known here on the Coast as the genial representative of Ernst Oeser & Company, of New York, was in this city the latter part of February. He reports business as steadily improving and the better photographers here on the Coast as showing a constantly increasing tendency to use the higher grades and more quiet and artistic effects in both mounts and folders. Mr. Leonard covers a large territory and we are pleased to have his assurance that the photographers are evidently doing a better business and making a more satisfactory profit than some of the pessimistic ones would have us believe.

Defender Offical Here

O. R. Reed, treasurer of the Defender Photo Supply Company, of Rochester, New York, was in this city the last week of February and the first week of March. While here, Mr. Reed made a close study of the business of the local branch in order that the house might understand as fully as possible the requirements of their customers here, and be in a position to co-operate with the local manager in handling the Pacific Coast trade to the mutual advantage of all. The new local manager, F. Carl Keller, comes to us with an enviable reputation gained in the Cleveland branch, and the trade here can feel assured that both he and the house behind him will spare no pains in maintaining a service in keeping with the excellent products turned out by the Defender Company.

Up to the point of efficiency, when one is learning a trade or profession, there is comparatively little joyousness in his labor; but with the consciousness of mastery, of thorough knowledge and aptness, comes a feeling of strength, of self-satisfaction, of superiority, which takes away all sense of drudgery, and makes the pursuit of one occupation a source of constant delight.—William Mathew.

THE HEADLAND By S. N. PURNELL
October, 4 p. m., soft light, Imperial Non-Filter plate, semi-achromatic lens, f-7, 1-75 second exposure.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

The Paget Plate

The Paget plate is still a comparatively new-comer, and my experience with it is very slight; still there may be one or two points on which I may at least start a discussion, even if I have nothing of much value to impart. It is difficult, perhaps, to know with which point to start. Let us take the matter of exposure; it is undoubtedly possible to give a very brief exposure and still get a printable image from the negative, but my experience is that in such cases the color is not all we should like it to be. I prefer to reckon the speed of the plate as 4 Watkins, that is, to give, to what we call an ordinary landscape with no very heavy shadows in the foreground, an exposure at f-16 of the same time as that taken by the paper in the meter to darken to the full tint. The same rules, of course, apply as to color contrasts and contrasts of light and shade as with the Autochrome plate.

When the Paget plate first came out, many users of it had doubts as to the suitability of the compensating filter supplied with it, and Messrs. Paget themselves appeared to share these doubts to some extent, for I have seen filters varying a good deal in color. I had a good stock of dyes by me, and I proceeded to make a large number of tests both with the spectroscope and with color charts to satisfy myself on that point. The difficulty in getting correct color rendering was not so much with brilliantly tinted objects near at hand as with distant landscape in which the colors are merely ghosts of those in the foreground. Flower subjects and color charts are reproduced very well indeed, but wide sweeps of landscape, particularly when there is no direct sunlight, have a tendency to lose the subtle half-tints, which are the chief charm in landscape work.

So much has been said about the development of these negatives that I can add nothing useful on that point. We have been told, however, that the negatives must be neither intensified nor reduced at the peril of upsetting the color harmonies. Of course, I quite agree that it is always better when possible to get the density we want by development only, but human judgment is not infallible, and should the negative prove too thin there is no reason, other than those which apply to all negatives, why intensification should not be employed! If a proper method be adopted, such as mercury followed by ferrous oxalate, the result is precisely the same as though development had been carried a stage farther. Reduction is, of course, quite a different matter, as it is doubtful if even ammonium persulphate will reduce an over-dense negative to the condition it would have been in had development been stopped at an earlier period. Still, occasions may arise when the reducing bath may be desirable. There is, however, one reason, peculiar to the plate, not to the process, why care has to be exercised in using an intensifier. The gelatine of the Paget plate is very tender, and it is well to apply a formaline bath before using any after-development process, especially in warm weather. I have also found that in making the positive transparency either intensification or reduction may give better results than can be obtained without them; for this purpose I prefer the Wellington intensifier, and the hypo and ferricyanide bath serves the purpose well when reduction is necessary. Here, again, the formaline bath is desirable.

Although a fair degree of density is wanted in the positive plate, excessive contrast must be guarded against. A degree of contrast that would be quite permissible in an ordinary lantern slide will hopelessly obscure the colors in the Paget process. Fortunately we can modify the contrasts by the usual means of varying the intensity of the light we use. I have with advantage rung the changes from candle light to that of burning magnesium ribbon, with the light from an incandescent gas mantle as an intermediate luminant. The candle is, of course, used with flattish negatives and the magnesium ribbon with those showing more than sufficient contrast.

Talking over this matter one day with Mr. Renwick, I ascribed the value of the magnesium light to its penetrating qualities; Mr. Renwick, however, reminded me of another possible cause, the violet color of the light. Those who have worked the three-color process know how difficult it is to get contrast in the violet negative and how difficult to avoid it in the red negative. Perhaps both causes operate; at any rate, as it is rather difficult to gauge the precise length of magnesium ribbon required (I used at three feet distance a quarter of an inch of the ribbon split into one-third of the width), it was worth while trying an experiment with blue glass. When used with the incandescent gas mantle, some improvement was effected, but the best results were obtained with the magnesium light and blue glass combined. The blue glass no doubt cut off some of the red rays of light and at the same time reduced the light sufficiently to make it more manageable. I found that three-eighths of an inch of ribbon one-sixteenth of an inch wide, burned at three feet from the negative, was about right.

Most beginners at the process complain bitterly at the difficulty experienced in registering the positive with the viewing screen and of the aches and pains induced in their necks. The pains may be avoided by placing a looking-glass flat on the table and registering by the light of the sky reflected from it. The difficulty in registering is soon overcome, but while I was suffering from it I devised a little piece of apparatus. It is constructed so that the positive is held fast, yet can be rotated on its center, while the viewing screen can be slid across it either from top to bottom or lengthwise, the adjustment being made by screws.—J. McIntosh in *British Journal of Photography.*

A New Use for the Paget Method of Color Photography

The Paget selecting screen for duplicating color photography supplies a very convenient method of testing and demonstrating the orthochromatic properties of plates and the efficiency of light filters, as the following notes will show; and so provides a new application of the process.

If an ordinary plate is exposed in contact with the taking screen, only the parts underneath the blue-violet areas will be affected; and when a positive from this negative is bound up in contact with the viewing screen, the whole of the picture will appear in various shades of blue-violet. But, in addition, the familiar faults of gradation will be apparent—reds will appear black, blue sky and white clouds will both appear the same shade of blue, and so on. In other words, the plate is able to provide us with a transparency which will give a complete picture of all the color characteristics of the ordinary plate, and will illustrate its shortcomings in such a manner that they can be seen at a glance.

If an ordinary orthochromatic plate is used in the same way, practically the same result is obtained. In some cases a slight greenish tinge may be noticed, particularly in yellow or very pure green objects; but owing to difficulties of registration when the "proper" colors are so very different from the colors of nature, nothing very definite can be determined. The result of such an experiment is to show that without a light filter there is practically no advantage in using orthochromatic plates. The practical experience of many workers has already led them to come to the same conclusion; but this demonstrates its correctness in an unmistakable manner.

When light filters are used, the green becomes increasingly prominent, and may even outweigh the blue with very deep filters; but no trace of red can be seen—except what may be due to faulty registration—and consequently yellows simply appear as green, and much darker than they should be.

With plates in which a filtering dye is incorporated in the emulsion, green shows to the same extent as with an orthochromatic plate and a two or three times filter, but in this case also no yellow or red shows.

Panchromatic plates show traces of green and red, and therefore also yellow, even without a filter. In fact, as will be obvious, they present the same appearance as any screen-plate which has been accidentally taken without the compensating filter.

When various screens are used, the nearer the colors approach the colors of nature the nearer is the approach to complete correction. Thus with the Wratten Panchromatic plate, the K1 filter gives too much blue, vivid greens, and not sufficient red, the K2 seems to produce results which are too green, while the K3 gives practically correct colors.

A bright yellow object included in the picture provides a ready means of determining whether the balance between green and red is correct for any given plate and filter. If this object appears orange in the picture, then the filter suppresses the green at the expense of the red; if it appears greenish, then the red is being unduly absorbed.

The results obtained in this way visualize and bring home to one, as no amount of description could, the properties of the various plates and filters. They provide an object lesson by which every photographer who is interested in the correct rendering of color by means of the camera cannot fail to profit.

With panchromatic plates there is no difficulty in registration; but with "red-blind" plates it is more difficult, and one must be guided by one's knowledge of what the result should be. If two bright green objects are included, one on either side of the plate, they will be found a great help, the aim being to get these objects as brightly and vividly green as possible in registering.

In exposing, it should be remembered that the exposure factors of the various filters are the same, on a given plate, with or without the Paget selecting screen, and that the screen increases the exposure with all plates, ordinary, orthochromatic and panchromatic, to the same extent, provided no filter is used. This may seem incorrect at first sight, but a moment's thought, or still better an actual trial, will show that it is quite true.—F. J. Hargreaves in *Photography.*

The Development of Under-Exposed Plates

When the "Hydra" plates were first introduced, and described as "plates you couldn't *over* expose," a friend remarked that a plate that you couldn't *under* expose would please him better. Very often, with dull days and frisky children to be photographed, I have wished that someone would invent such a plate. How our predecessors managed in the days of wet collodion sometimes puzzles me, but I suppose they refused to attempt to photograph children in dull weather; if so, they must have turned away a good many customers in winter, usually the busiest time of the year. There is no doubt that we of the present day have an easier task, as the speed of plates keeps on increasing; but perhaps, on the other hand, a good deal more is expected from us, and we have to take photographs under conditions which would have rendered success impossible in former days. But even with the most rapid plates under-exposure is a not uncommon fault today, and it is difficult to develop such exposures into good printing negatives. The usual method of increasing the alkali and reducing the bromide is sometimes successful, but it often fails in bad cases. Another plan often adopted is to soak the plate in the alkali first, and then develop in the usual way with normal developer. Both these methods may be improved by warming the developer, but it is very easy to use developer at too high a temperature, and partial melting of the gelatine takes place, and also excess of density may arise, producing a very harsh negative. I have been trying another method lately, which has proved very good when plates have not been very much under-exposed. Exposure may have been so short that no method of development will produce a good negative; but when a series of plates are known to have been under-exposed slightly the following method may be tried, often with excellent effect.

Two dishes will be needed, one containing a solution of alkali twice or three times the strength when diluted for development in the usual way; in this the plate is soaked for about a minute (in cold weather the alkali may be used at about sixty to sixty-five per cent.); without washing the plate is then placed in a solution of metol and hydroquinone, without any bromide in it at all. The image will now begin to appear, but will remain weak and thin, however long it may remain in the second solution, but on removal to the alkali again it should acquire sufficient density; if it fails to do so it may be put into the second solution again, and in obstinate cases it may go back again into the alkali. This seems to involve a great deal of trouble and waste of time; and so it does, but it is worth it if a fairly good negative is the result, as it is often the most important things that get short exposures by force of circumstances. Even when a plate has been developed in this way it may need intensification. If a trial of the first plate proves the under-exposure to be so slight as to make such heroic treatment unnecessary, it can be developed by placing in the metol and hydroquinone first and afterwards in the alkali; in such a case it should not be necessary to return the plate to the metol and hydroquinone

—once in each solution should be sufficient. If the first method is adopted and the plate returned to each solution again a mixture of developer is formed in each dish, and a second plate will develop a faint image in either developer, but this is of no importance provided that the solutions are not used to a point approaching exhaustion, especially the alkali.

This use of powerful developers without bromide may appear risky, as likely to produce fogging, but I have never found it do so—in fact, some months ago I received a shock which quite upset all my preconceived ideas of development in connection with the use of bromide. I was trying a new plate, and found that a developer containing a larger proportion of hydroquinone than metol gave a thin, foggy negative; on looking up the instructions sent with the plates I found one of the developers recommended by the makers contained *equal* parts of hydroquinone and metol and *no bromide at all.* I thought it absurd to expect such a developer to produce a good negative with that particular kind of plate, but out of curiosity I tried it, and to my amazement got a negative that was too hard and dense to print at all. It occurred to me that it might be a peculiarity of that particular plate, but on trying it with plates of other makes I produced a similar result. By diluting the developer it worked very well, but on further experiments I returned to the old developer, for the one with no bromide needed great exactitude in exposure, and I use it only in cases of known under-exposure. It seemed rather uncertain in its actions, for on several occasions when using it for panchromatic plates —which, of course, must be exposed with the greatest care—it sometimes produced perfect negatives, but at other times exceedingly thin ones, needing considerable intensification. But the no-bromide developer is extremely useful for developing bromide prints from hard negatives, and such prints will tone to a good sepia.—Harold Baker, in *British Journal of Photography.*

An Enormous Lens

A gigantic lens of 11 inches diameter, and aperture f-4.2, has recently been constructed by J. H. Dallmeyer, Limited, at Willesden, for the use of a photographer in Egypt who wishes to secure life-size pictures in natural perspective. The theoretical design presented considerable difficulties, as the standard of definition in the final picture requires to be of as high an order as in the case of a small lens. Aberrations which increase as the focal length increases have therefore to be remarkably well corrected, no easy task with a lens of this size. After weeks of calculation, the desired form to give the individual lenses was found, and the metal tools were put in hand.

Glass discs of eleven inches diameter are not, as may be imagined, a stock article, and over six months elapsed before the glassmakers were able to provide suitable material. The grinding and polishing fortunately passed off without incident. The over-all length is twenty and one-half inches, width twelve and one-half inches, flange diameter sixteen inches, and the lens complete scales just over a hundredweight. After the best results had finally been obtained, it was thought that it might be of interest to see what stereoscopic effect was obtained, by reason of the large glass diameter. This diameter, eleven inches, far exceeds the separation of the eyes, and might therefore be expected to produce curious results.

The test object, which had to be very short, on account of the little depth of focus, was a thin plate, painted on each side with alternate bands of black and white. These were so arranged that a black band on the right-hand side corresponded to a white band on the left-hand side.

This object was put up about twenty feet from the lens and photographed in four ways:

Plate 1: With the lens covered up, except for a small hole in the middle.

Plate 2: With the lens covered up, except for a small hole on the right-hand side.

Plate 3: With the lens covered up, except for a small hole on the left-hand side.

Plate 4: With the complete lens uncovered.

Plate 1 corresponds to a photograph taken with a lens of the same focal length, but small aperture, and plates 2 and 3 to photographs taken by shifting such a lens five inches to the right and left, respectively. Plate 4 is similar to what one might expect to see in a stereoscope using both these photographs.

In plate 1 there is the end-on view of the place only.

In plate 2 there is the end-on view and also the right-hand side.

In plate 3 there is the end-on view and also the left-hand side.

In plate 4 there is the end-on view and both sides, the whole combined to form one view.

The photographs thus show the ability of a large lens to see round corners. Photographers have often stated that a large lens gives more roundness and modeling in portraiture, and that, perhaps, is explained by this property of seeing round corners.—*Amateur Photography.*

Preparing Originals for Copying

Copying, especially the copying of old, faded, or discolored photographs, is work which the photographer finds especially difficult. It is difficult to get as good a result as the original, and it is still more difficult to improve upon that, at any rate by ordinary straightforward photography; and it is usual for the professional at least to place a great deal of reliance upon subsequent handwork on negative and print.

Much can be done in this direction by a skilful retoucher. In very bad cases, an enlargement is made from the copy negative, elaborately worked up in black and white and rephotographed. The results in such cases may repay all the labor that has been bestowed upon them; but it is the purpose of this article to show how a great deal of that labor may be avoided, and that it may be possible to get very good copies from very poor originals. Although primarily of use to the professional workers, most of whom must have found, like the writer, that clients' expectations of what can be done by copying are of a very lofty character; it is hoped that amateurs also, to whom the use of the pencil and brush may not be so familiar, will yet be able to gather a few useful hints from it.

Much of the work which is ordinarily done in touching up the negative of a copy in order to make it give even a passable print can be prevented by judiciously working on the original beforehand. The advantage of any work done on the original is not merely that it saves handwork on each separate print; but also that the result has the same photographic character right through, so that there is every chance that the handwork will not attract attention.

For these and other reasons, therefore, no trouble should be spared in the earlier stages of the work, since the photographer has the comforting assurance that the more he can do effectually at that stage, the less will there be for him to do at the finish.

In many cases the original itself is not required, when once a good copy has been obtained. In others, the owner may be glad of the work put upon it, as improving it. In both these instances, we have no need to study to keep the handwork removable. With some old originals, however, any work put upon them must be capable of subsequent removal; their age has given them defects, which themselves are valued, and anything done to hide these would be regarded as desecration. All the handwork which is put upon them must, therefore, take such a form that when it has served its purpose it can be removed and will leave no signs of its presence.

As the photographer can hardly be expected to know all the ins and outs of the value of old prints, engravings, etc., that he may be called on to copy, nothing whatever should be done to the originals without first having a clear understanding with the owner of them.

The type of original which has most frequently to be copied is a faded silver print, generally on albumenized paper. It will be found, in all probability, to have changed color irregularly, and to be marked by a good many light, perhaps even white, spots. All these must be carefully toned down. Bad as they look in the original print, they will look very much worse in the copy, since they will be emphasized by the increased contrast which we shall try to get, in order to obtain a brighter effect throughout. The color of the surroundings of the spots must be very carefully matched with a suitable mixture of water-color pigments, judging the match by the pigment when it is dry, not while it is wet.

As the surface of such prints has a slightly glossy character, a little gum water must be mixed with the pigment so that it also shall have a similar surface. It is possible, by arranging the lighting carefully, to conceal any difference in glossiness between the handwork and the original surface; but it will be found much better to avoid such difference if it is at all possible to do so, in order that the lighting of the subject may not be made any more complicated by the addition of another factor.

Many of the blemishes on old prints are due to nothing more or less than dirt. Gently rubbing over the surface with a little pad made of cotton wool and moistened with benzine—or with motor spirit, which answers just as well—will get rid of a great deal of them, and make the picture look much brighter. This must on no account be done in a room with a fire, or any other naked light; in fact, it is best done out of doors. Another good plan for cleaning a print is to scatter bread crumbs over it, and then give it a good rubbing with the flat of the hand, finally wiping off all trace of the crumbs with a clean cloth.

Instead of touching out defects in the manner just described, it is often much better to hide the whole of the defective surface under a layer of opaque pigment known as "body-color." To make up body-color, a fairly thick cream of Chinese White is used, and other water color is added to it until it is found to be of the right shade, always remembering to judge by the dry and not by the wet pigment. A liberal layer of this will entirely hide all that is underneath it, and in this way a smooth, even area of some one tint or shade is easily made. By wetting and sponging the surface of the print afterwards, the whole of the body-color may once more be removed.

This plan will often be found very helpful in the case of old vignettes, which may have the ground made bright and clean by treatment with Chinese White, going right up to the picture when this ends abruptly against the light background. Where it gradually vignettes into it, the Chinese White must be kept well away from the picture, and may end quite abruptly there also. Then with as white a card as we can get, cut to a suitable shape, the image may be vignetted off during the actual exposure of the copy, by holding the white card in front of it, where it is well out of focus, and keeping it moving. Those who have not yet tried it will be surprised to find what a difference can be made in copying a vignette, by dodging with the original in this way.

The body-color method is also very useful when a single figure is to be taken out of a group. All the parts which are not required can be hidden by means of the color, and the required figure is easily isolated.

Pencil is very useful for working up originals at times, and has what is sometimes the very great merit of not requiring the print to be wetted to remove it. A good deal of simple spotting can be done with a pencil. Shadows in the original may be intensified temporarily by a little careful shading, and the general appearance very much improved. The pencil work, if carefully applied, will be much less noticeable in the copy than it may be on the original itself, as any difference in color will, of course, no longer be perceptible. Instead of the pencil, blacklead may be applied with a stump, or by mixing it with a little pumice powder and using a ball of cotton wool. Vignettes may have that clouded effect which many people like introduced in this way. The lead may be applied over the image, if it is more convenient to do so, removing it subsequently from the parts where it is not required with a piece of rubber. It can be very useful in conjunction with body color, applying the latter first, and when it is quite dry, working on it with the stump or cotton wool.

While the foregoing include the methods which are most likely to be found of service, they do not exhaust the list by any means. Chalk can be used; even whiting is handy at a pinch. It is advantageous sometimes to place a sheet of ground glass, ground side downwards, on the print to be copied, and tracing the outline in ink on the smooth side, to take it away, work on the ground glass with crayons, etc., and then replace it and photograph. This allows a little work to be done without wetting or rubbing original.

The great thing in copying work of this nature is to recognize that instead of merely making a copy of the print just as it is, defects and all, much more can be done by carefully preparing the original itself beforehand. Then the negative may be worked up in its turn, if it seems to call for it; but it will not be found to need anything like so much treatment, while the possibilities of improvement are very greatly increased by such methods as have been outlined.—A. J. Rolfe in *Photography.*

Copying Blue Prints

A negative of a blue print is sometimes wanted. If the copy is made on an ordinary plate, scarcely a trace of image will be found, the blue and white having nearly the same effect. Use an orthochromatic plate with a deep yellow filter and a vigorous negative may be obtained. I might add that the blue print process often gives a most pleasing rendering of landscapes and seascapes, while the making of such prints is simplicity itself.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Intensifying

I cannot understand why so few workers deny themselves the advantage of intensification. True, the average beginner is quite prone to develop all his negatives too long, thereby making them such as will not respond to intensification, but, on the other hand, they do try to print from a great many negatives that would be much more satisfactory if intensified. Learn to avoid overdeveloping and then learn to intensify a negative to the desired degree with one of the good intensifiers on the market. There is no such thing as forcing out detail by prolonging development. Take the detail in some certain deep shade. It stands to reason that this detail acts very weakly on the plate during the exposure for the rest of the view, and such action must be directly on the surface of the emulsion. It is then quite obvious that the developer being used will bring out all there is of this light surface action well within the time required to dig out and develop the strong light action in the better-lighted portion of the view, light action that has penetrated right through the emulsion and that must await the getting down into the lower strata of the emulsion by the developer. The Victor intensifier is an excellent one and we have seen some fine results achieved with the sepia re-developer supplied by the Eastman Company. The books are well supplied with formulas for intensifiers if one wishes to mix his own, but under ordinary conditions the prepared solution is more certain and satisfactory.

Doing One Thing Well

One of our subscribers from well up the State came in the other day and, as so many do, and as we like to have them do, showed us quite a batch of his prints. He did this only after we had had some little talk on the subject of exposure and development, he claiming that his principal difficulty was in securing an occasional good negative. Either his exposures or his development of the plates was seriously at fault, and he knew it. But these prints were all nearly perfect; in fact, they were about the best average lot of prints I have seen for a long time. I could not reconcile the prints with his complaint about his negatives, but he explained. About three years ago he wrote me asking how he could make better prints. My advice was that he stop trying this and that paper, get a copy of the little manual all the papermakers put out, stock up on one kind of paper but all the grades, and then stick to it, following instructions closely, until he mastered the booklet and the several grades. That month the Velox people came out with an advertisement saying: "A perfect print from every one of your negatives can be had on some one of the grades of Velox," closing with, "Ask for the Velox Book." So he sent for the book and went to work. He is certainly the master of the printing process as far as that one brand of developing paper is concerned, and it would no doubt have been just the same with any other good brand. And he did it all in a very few months while before he had been chopping around and trying different papers in an aimless sort of way that precluded any chance of his getting the best results on any of them. It was simply a case of mastering one thing and that one thing made as free from outside influences as possible, or rather, outside detractions. Now that the work is done, he can take up any other kind of developing paper and use it to good advantage simply because he has a standard to go by. He recognizes deviations, realizes that the makers' formula is the one to use first, and is free from a lot of needless groping in the dark that would hamper the efforts of one less certain of his ground. He is going to do the same thing with his exposure and developing troubles. All his exposure meters and tables, with one exception, are to be put aside and with the one selected he will learn to make exposures to fit a standard, unchanged developing solution. Once his exposures are fairly correct and he knows how to make them uniformly so, he will take up the matter of development. It is this aimless changing around that makes it such a slow process learning to make every exposure count as it should. The only way to experiment, and learning is simply making a series of experiments, is to keep as many factors as possible uniform. If one makes twenty exposures on the same subject, with the light the same, the same stop, the same plate, the same developer, and only the exposure varying, he will learn the correct exposure for that subject under those conditions. Then, changing the stop varies the exposure by a simple rule. Changing the plate does the same according to the given ratio of speed, and the change due to a different subject or light is also quite easily calculated. One also learns to distinguish between over and under exposure; and, by watching the one rightly exposed come up, he learns how a correctly exposed plate should behave in that particular developer. But let the same person go out and expose two hundred plates, vary the exposures, the stops, the plates, the subjects, the lighting, and the developer, and what has he learned? Yet that is the way in which a great number of camera users expect to gain the needed experience that will enable them to make every exposure count, as every exposure certainly should.

Broken Negatives

A broken negative of value, a scene or portrait that cannot be retaken, is not so hopeless as is usually supposed. If the film is unbroken it may be transferred to a new support. If both film and glass are broken, the following is a reliable method of repairing the damage. Put the different pieces together again as closely and accurately as possible, joining them with Canada balsam, and cementing all to a new, clean glass support. From this make a transparency; and from this transparency make a new negative. In the transparency there will be lines showing where the pieces were joined. Remove these lines, the dark ones with the etching knife, the light ones with the retouching pencil. Then from this retouched transparency make another negative which should be as good as the original one. If not, owing to lack of careful retouching of the positive, it may itself be worked on with knife and pencil.

Negatives That Are Too Contrasty

When you have a negative that has too much contrast, it may be softened as follows: Soak negative in water a few minutes, adding a little ammonia if the surface be greasy, and then rinse. Make up the following solution:

Chromic acid	30 grains
Potassium bromide	60 grains
Water	10 ounces

Place negative in this, rock tray occasionally, allow negative to remain till bleached through to the back, and then wash well in running water. Next re-develop this bleached negative with a very dilute developer such as Rodinal one part to one hundred parts of water. As the re-development proceeds and the film darkens, examine the glass side of the negative quite often. When only the high lights or densest parts remain white, transfer negative at once to a plain hypo fixing bath till clear. Then wash in running water as usual.

Using An Exposure Meter

When using an exposure meter in intense sunshine, the paper is darkened so rapidly that it is often difficult to judge the exact time. In such cases, cover the sensitive paper with the ray filter or color screen and you can then easily note the time taken to color the paper to the matching tint. Then divide the time taken by the multiple time of the filter. For example, if the paper took three seconds to darken through a six times screen, dividing three by six gives one one-half second as the meter time.

Pyro Negatives

If, after developing with pyro, you find the dry negative too much stained, place it in: Water, ten ounces; c. p. hydrochloric acid, ten drops, and allow to remain till excess of stain disappears. Finally wash in running water a short time and then dry.

Reticulation of the Film

Reticulation of a negative film is usually a fatal trouble. It can sometimes be cured by stripping the film and transferring it to a new support. It may be avoided by removing the negative from the fixing bath, soaking it for about five minutes in a ten per cent solution of formalin, afterwards washing and drying as usual.

OUR BOOK SHELVES

"Practical Cinematography and Its Applications"

This is the title of a new book by Frederick A. Talbot, the author of "Moving Pictures: How They Are Made and Worked," etc., but in this last volume Mr. Talbot has kept fully in mind the express purpose of encouraging and helping the amateur photographer who is desirous of taking up cinematography or moving-picture work. The apparatus used, the methods employed, and the conditions overcome, are all explained in the most full and comprehensive manner. The scope of the book can be judged by the fact that nearly four pages are required for an index of the illustrations that embellish the twenty distinct chapters. The book is one that should have a large sale, strictly on its merits as a source of information on a subject none too well exploited in an informative manner. Published by J. B. Lippincott Company, Washington Square, Philadelphia, Pennsylvania. Price, one dollar, net. Postage, nine cents.

"American Photography Exposure Tables"

We have just received a copy of the Exposure Tables bearing the above name and can commend it mostly highly to any of our readers who are desirous of obtaining a reliable set of exposure tables based on a complete list of American plate speed brought up to the present time. This little book is a revised edition of "Todd's Exposure Tables" and contains a large amount of useful matter not present in any previous edition. The price, as heretofore, is only twenty-five cents, and copies can be obtained from the American Photographic Publishing Company, 221 Columbus Avenue, Boston, Massachusetts.

"How To Make Lantern Slides"

We have just received a very complete and concise little handbook bearing the above title, and we desire to call it to the attention of our readers who may be interested in the subject treated. The little book is No. 9 of the American Photography Hand Book Series and is reprinted, with slight changes, from *Photography and Focus,* where the matter originally appeared as the work of the editor, R. C. Bayley. The instructions are full and complete and such as should enable any one to achieve the most gratifying success in this most interesting branch of photography. Copies can be obtained for the nominal sum of ten cents from the American Photographic Publishing Company, 221 Columbus Avenue, Boston, Mass.

"Burnet's Famous Art Essays"

John Burnet's Art Essays have long been recognized as works of the highest value to the art student and the artist. As has been said by so high an authority as the *Westminster Review,* "To the orthodox in art matters, 'Burnet' is a 'household word,' and is regarded as an authority sound as Sir Joshua himself." These essays, The Education of the Eye, Practical Hints on Composition, and Light and Shade, have recently been reprinted, together with one hundred and thirty-five photo-engravings and etchings, from celebrated pictures, in one handsome volume, bound in art canvas. This places this valuable work again obtainable in this country, and our readers who are not in possession of one of the older editions should be sure to secure a copy of this. Copies can be ordered from photographic dealers or direct from the publisher, Frank V. Chambers, 210-212 North Thirteenth Street, Philadelphia, Pennsylvania. Price, two dollars and fifty cents, postpaid.

"The Parents' Guide in Sex Problems"

This is the title of a book that has reached our desk and we can hardly do better than quote one of the letters from pleased readers of the volume. Mrs. Florence D. Richards, Lepsic, Ohio, Vice-President at Large, Ohio State W. C. T. U., and National Organizer, Lecturer and Evangelist, writes: "Your new book, 'The Parents' Guide,' reached me in the midst of a great county option campaign, and speaking afternoon and evening, left me no time to read it. I am still busy and hard at work, but have found some time after my night lectures to devote to your book. I am simply fascinated with its truths and get so absorbed that time is forgotten. I consider its arrival most timely and will take great pleasure in recommending it to our women.

"You tell these truths so beautifully and yet so forcefully that all must be benefited who read it. I hope it may have a wide circulation. The chapters are all good; but the one on Prenatal Influence, also Prenatal Training, should be read by every young mother. Wishing you much success in your great Christian work, I am sincerely yours, Florence D. Richards."

The book contains two hundred and eighty-three pages, handsomely bound in cloth, price one dollar, postpaid. It is published by the author, B. J. Kendall, M. D., Geneva, Illinois.

"After Fifty Years"

The editor of "Gameland" has written a new book, his second, we believe, bearing the above title. It is a touching picture of real life, a story that brings forth tears of sympathy and tears of the other kind, pathos and humor blended as only a true narrative of an eventful life can offer. Read it, read about the author's unhappy childhood, his wanderings, how the old coon dog was buried, how he broke the grape-vine lock in the wrestling match, how he became an editor, and you will not lay down the book until it is finished. A handsome book in paper covers, twenty-five cents, postpaid. Published by the author, David E. Allyn, Madrid, Iowa.

"The Secrets of Success for Boys and Young Men"

This is the title of a book recently published by the author, B. J. Kendall, M. D., of Geneva, Illinois. The volume is one that should be in the hands of every boy or young man, as it contains much sound and helpful advice, that, if followed, would be of untold value to them. Chapters treat on such subjects as: How Boys Become Real Men, How Boys Fail to Become Men, Medical Advice to Boys and Young Men, Preventing Consumption, Starting Right, Business Maxims, and other topics of like import. This little book has the endorsement of a long list of eminent teachers and doctors and it would mean but little for us to add our own, sincere as it is. It can be obtained direct from the publisher as above, cloth binding, fifty cents postpaid.

CLUB NEWS AND NOTES

The St. Louis Camera Club

Through the efforts of a few enthusiastic amateurs of St. Louis, a meeting was held February twelfth last at the home of O. C. Kuehn, 3405 Caroline Street, for the purpose of organizing a camera club devoted to the interest and advancement of photography. The following officers were elected: O. C. Kuehn, President; J. F. Peters, Vice-President, and A. W. Prasse, Secretary. It was agreed upon that the organization be called the St. Louis Camera Club, meetings to be held every second and fourth Thursday in each month. Communications with the Club can be held by addressing the Secretary, Alvin W. Prasse, 3149 Shenandoah Avenue, St. Louis, Missouri.

Davenport Camera Club

Davenport, Iowa, has a Camera Club, about four years old, made up of twenty-one members who are enthusiastic amateurs sincerely trying to improve their work by the co-operation and opportunity of comparison which can be secured by organization. They maintain very comfortable quarters in the business section of the city and while the membership is not large the interest of those included makes up for the deficiency of numbers. Mr. Seth J. Temple, with offices in the McManus Building, is president, and would no doubt be pleased to hear from manufacturers and others who might wish to get in touch with the members through their demonstrators when in his city.

Portland Society of Art

The Photographic Section of the Portland (Maine) Society of Art has just closed its fifteenth annual exhibition, held at the Sweat Memorial Museum. Quoting from the Portland *Telegram:*

"Annually for fourteen years the Portland Camera Club, which has in late years become the photographic section of the Portland Society of Art, has given an exhibition of photographic art. Annually this exhibit has increased in size and importance, in quantity and quality; and each succeeding year has seen something new, something of development and progress in art with the camera. It is not exaggeration nor too much presumption to say that this last exhibit excels in artistic values any ever hung in Maine, nor even to claim for it that no exhibit anywhere ever embraced more noteworthy examples. As compared with the great exhibit of last year, it shows progress, a year's advance in this branch of art, new processes exemplified, pictures of greater merit and more artistic development of color tones. The student of photography could well spend with profit entire days in the galleries in analyses of artistic values and comparisons of the effects obtained by experts in the new processes."

Davenport Camera Club

The Davenport Camera Club has just closed a very successful little exhibition of the work of its members, an exhibition held at the public library in that city from January thirtieth to February fifteenth, inclusive. The exhibition was made up of sixty-seven beautiful samples of photographic work contributed by twelve of the members, work that was greatly admired, both for its artistic merit and the technical skill displayed. The Club is desirous of securing small exhibits of the work of pictorial photographers for the benefit of its members, and other clubs that can oblige them in this direction would be extending a kindness by addressing the President, Seth J. Temple, 216 Brady Street, Davenport, Iowa.

Winnipeg Camera Club

The Fourth Annual Exhibition of the Winnipeg Camera Club will be held in the Civic Art Gallery of the city of Winnipeg, under the auspices of the Civic Art Committee, June second to thirteenth, inclusive. Gold, silver and bronze medals, donated by the committee, will be awarded for the three best pictures, and the McMillan Challenge Cup will be awarded to the best picture by a member of the Club. A loan exhibition of portraits and figure studies by some of the most eminent workers in Europe and America will be made a feature of the Exhibition. Prospectuses and entry forms giving all information can be obtained of J. M. Iredale, Honorable Secretary, Winnipeg Camera Club, Winnipeg, Manitoba, Canada. Pictorial workers throughout this country are particularly invited to submit examples of their work, sending for entry form at once in order that pictures may reach Winnipeg by the twenty-third of May, the last day of receiving.

City Hall Camera Club

A camera club has been organized among the employes of the City Engineer's office, Los Angeles. It will be known as the City Hall Camera Club and its address will be in care of Mr. W. C. Sawyer, R. 31, City Hall, Los Angeles. The club desires to be placed on the mailing list of manufacturers, dealers and others in order that catalogues, price lists, samples and the like may reach them as soon as possible. The club is not a large one, but it is made up of a few enthusiastic workers who will no doubt be more harmonious than would a larger body.

Sacramento Y. M. C. A. Camera Club

Thirty members of the Sacramento Y. M. C. A., on February second, started the ball rolling for a Camera Club in that city. There is at present no Camera Club there, and so far the prospects look for a most successful club. W. S. Hales was elected President and H. N. Krenkel, Secretary. J. Zipf, of the California Camera Club, gave a talk on the advantages and benefit of a Camera Club.

The Secretary states that he would like suggestions from any of the advertisers of this magazine and literature and catalogues from all the advertisers as a reference for members of the Club.

Any demonstrators who are to be in Sacramento are requested to give advance notice of their coming and, if possible, give the Club demonstrations and lectures, which will be greatly appreciated.

The address of the Secretary, to whom all communications should be sent, is: Harry N. Krenkel, Secretary Y. M. C. A. Camera Club, 503 J Street, Sacramento, California.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

To the Illinois Members

I am at present preparing Illinois Album No. 8, and while I have quite a few nice prints I would appreciate it greatly if more of the members would send me specimens of their work to be included therein, sending them at once. Very few members seem to realize the pleasure that can be derived from an inspection of the album as it comes around to them, and as this pleasure can be secured at the cost of a few prints and a few cents postage on the album to the next member on the route list, there is no good reason why a much larger number of the members should not avail themselves of the opportunity.—George A. Price, State Album Director, 802 North Park Street, Urbana, Illinois.

The South Dakota Album

I am routing out our first South Dakota album and would ask each member who receives it to use his best endeavors to make a success of this branch of the I. P. A. work in this State, and he can do it in no better way than by showing the album to any photographic friend who might be interested in the work and explaining to him the advantages of becoming a member and sharing the pleasure of receiving these circulating albums as they are routed. I would also like to have a personal letter from each member advising me as to his opinion concerning an annual State exhibit with prizes for the best pictures therein. It would also be desirable to have a South Dakota photographic exhibit at the 1915 Exposition and I would be pleased to be one of a number to get behind something looking to such an exhibition. Let us all boost for South Dakota and I will help all I can.—C. B. Bolles, State Album Director, Lock Box 351, Aberdeen, South Dakota.

New Members

3799—L. T. Ryder, 1139 N. Church Street, Rockford, Ill.
Class 2.

3800—Charles W. Grammes, 131 South Fourth Street, Allentown, Pa.
Up to 8x10, developing paper, of all kinds of subjects; for Panama Canal, and Washington, D. C.; lantern slides only. Class 1.

3801—W. B. Greer, R. F. D. No. 3, Oakland, Iowa.
3¼x5½, developing paper, of rural views and landscapes; for landscapes and views, scenery and any interesting subjects; only single weight. Class 1.

3802—R. A. Garrison, 506 Green Street, Dowagiac, Mich.
3¼x4¼, various papers, of diving pictures, boys' camps, and scouts; for the same and general views. Class 1.

3803—L. A. Beaty, Selmer, Tenn.
From cabinets to 8x10, developing papers, of all classes and views of Shiloh battlefield and park; for most any good subject or view. Class 1.

3804—Ralph S. King, Box 855, Columbus, Ga.
2¼x3¼ to 5x7, and enlargements to 11x14, various papers, of miscellaneous subjects; for models, bathing, and general views; prints and post cards. Class 1.

3805—Dr. Collins Yerxa, 1204 W. Fourth Street, Williamsport, Pa.
Post cards and 5x7, various papers, of bathing, canoe girls, children, decollete, and pretty girl poses; for the same also seminude and any good genre, animals, etc. Class 1.

3806 C. D. Noble, Rongis, Wyo.
3x5¼ and 4x5, developing papers, of mountain scenery, and pictures of stock; for mountain scenery and domestic animal photos; post cards only. Class 1.

3807—Jessie T. Morris, Room 308, 1123 Broadway, New York, N. Y.
Class 3.

3808—Miss Elsie M. Ayers, R. F. D. No. 18, Box 5, Owensville, Ind.
3¼x3¼, and 3¼x5½, various papers, of local scenery, and from trips taken, also miscellaneous views; for scenery and miscellaneous views; post cards and 3¼x5½ prints. Class 1.

3809—Arthur Smith, Cone, N. M.
4x5 and post cards, of different kinds; for the same. Class 1.

3810—Henry Murray, Roy, Wash.
Class 2.

3811—W. H. W. Benedict, Box 174, Dover, N. H.
Class 3.

3812—Robert Rhone, 1253 Selby Ave., St. Paul, Minn.
2½x4¼, 3¼x5½, 5x7 and lantern slides, developing papers, of St. Paul, Minneapolis, Duluth and vicinities; for nice clean-cut work. Class 1.

3813—George E. Peaslee, 159 Willoughby Ave., Brooklyn, N. Y.
Class 2.

3814—J. H. Leetch, Box 572, Hoquiam, Wash.
4¼x6½, developing papers, of general scenes, for the same. Class 1.

3815—Frank E. Swan, Grant, Neb.
Class 3.

3816—Carl A. Peterson, P. O. Box 15, Scandinavia, Wis.
2¼x3½, 4¼x6½, 6½x8½ and 8x10, various papers, of landscapes, still life, genre, and children; for figures and views treated in a pictorial manner, also beach and sea pictures. Class 1.

3817—Earl L. Parker, 49 Maple Ave., Barre, Vt. Class 2.

3818—George S. Dodge, Waits River, Vt. Class 2.

3819—L. H. Moyer, P. O. Box 58, Skagway, Alaska.
3¼x5½, various papers, of landscapes and mechanical things; for anything. Class 1.

3820—W. S. Cotton, 6329 67th St. S. E., Portland, Ore.
Post cards, 3¼x3¼, and stereoscopic views, printing-out and developing papers, of park scenes, street views, river views, battleships and miscellaneous; for post cards and stereoscopic views of general subjects, but prefer foreign views. Class 1.

3821—M. J. Krepokovich, Hamton Station, Saskatchewan, Canada.
2¼x3¼, 3¼x4¾ and 4x5, developing papers, of farm scenes, landscapes, animals, snow scenes, flowers and subjects of general interest; for farm scenes, animals, mountains, scenery, city, western, and orchards of California. Class 1.

3822—Chas. W. Finley, 216 N. Ward St., Macomb, Ill.
Lantern slides, uncolored, on bird life. Class 1.

3823—Wm. C. McKerahan, 420 Airbrake Ave., Wilmerding, Pa.
5x7, developing papers, of buildings, views of parks, and land scenes; for photos on lakes and mountains. Post cards only. Class 1.

3824—T. L. Bell, R. F. D. No. 3, Lexington, Neb. Class 2.

3825—B. Shields, Box 753, Eureka, Cal.
3¼x5½, developing paper, of outside pictures of mountains, rivers, oceans, etc.; for the same. Class 1.

3826—F. J. Ealy, R. F. D. No. 1, Fillmore, Cal.
5x7 and 3½x5½, post cards, 2½x4¼, developing paper, of general views; for the same; post cards only. Class 1.

3827—J. Watson, 1028 Washington St., Oakland, Cal.
Stereoscopic, printing-out paper, of scenery of California, Florida, Boston, Washington, Connecticut; for scenery and historical views; stereoscopic views only. Class 1.

3828—V. E. Hammond, 134 K St., Tulare, Cal.
3¼x5½ to 6½x8½, various papers, of Sequoia National Park, California missions, also genre; for art studies, portraits, foreign scenes; good work only. Class 1.

3829—Archie Gilfillan, 1536 Haight St., San Francisco, Cal.
2¼x3¼ to 5x7, developing papers, of railroads, street scenes, landscapes, beach scenes, etc.; for railroads and beach scenes. Class 1.

3830—Dr. Addison O'Neill, P. O. Box 525, Daytona, Fla.
Class 2.

3831—James B. Hays, Box 306, Boise, Idaho. Class 2.

3832—H. S. Mustin, 7119 Ellis Ave., Chicago, Ill.
Class 3.

3833—Manfred Y. Shepard, Box 717, Station A, Ames, Iowa.
3¼x5½, various papers, of college views of Iowa State College, landscapes, and views of general interest; for seascapes, landscapes, college views, and views of general interest. Class 1.

RENEWALS

170—Thos. J. Ronald, Abbott, Colo.
5x7 and smaller, various papers, of eastern Colorado dry farming scenes and views, also portraits; for anything artistic or of general interest, we to be the judge. Prints on single or double weight paper only. Class 1 for anything having artistic merit for anything in my line; all others Class 2.

672—Henry L. Dillon, R. F. D. No. 3, Darlington, Pa.
4x5, 5x7 and some post cards, developing papers, of farm scenes and landscapes; for street scenes, harbor views with shipping in the principal harbors of the world. Class 1.

2146X—U. W. Tryon, 327 Sargent St., Kendallville, Ind.
8x10, 4x6, and post cards, developing papers, of miscellaneous subjects. Will exchange for historical and freak pictures, any good picture, any place. Like to correspond in regard to work, giving detail of work. Class 1.

1827X—S. H. Shelstad, Brandt, S. D.
Post cards, developing papers, of farms, scenes and portraits; for any subject. Post cards only. Class 1.

1854X—Burdette Harrison, 210 Lock St., Tarentum, Pa.
3¼x5½, 4x5, 5x7 and enlargements, various papers. I have a general assortment, no specialty; for interesting subjects, no portraits. Class 1.

2160—M. Rousselot, 70 Rue Nationale, Evian (Hte. Savoie), France.
Class 2.

2220—H. W. Terhune, St. Johns, Wash.
Class 2.

2565—E. V. Bargamin, Elk City, Idaho.
Stereos and post cards of nature studies; for the same. Class 1.

2717—W. N. Bird, Park Ave. East, Vineland, N. J.
Class 2.

2776X—L. A. Sneary, 2822 Espy Ave., Pittsburgh, Pa.
5x7 and below, developing paper, of anything that appeals at the moment; for lantern slides, historical, or others after correspondence. Class 1.

2816—Leroy C. Ferry, Buhl, Idaho.
4x5, various papers, of general landscapes, mountain and water scenes, farm scenes, etc., also lantern slides; for most any subject of interest, artistic scenery preferred, also lantern slides. Class 1.

2835—Frank M. Remster, 69 Myrtle St., Bridgeton, N. J. Class 2.

2885—George Macaulay, 167 Allen St., New Bedford, Mass.
3¼x4¼, and 6½x8½ enlargements, various papers, of marines and a few speed pictures; for mountain views, marines and historical views. Prints or post cards. Class 1.

3361—J. E. Winter, College View, Neb.
Foreign and local views, also animals; for the same. Prints only. Class 1.

3442—5x7 and 2½x4¼, developing paper, of scenery; for the same. Class 1.

3707—C. Flora, 600 Center St., Findlay, Ohio.
Now prepared to exchange Ohio historical lantern slides or good glossy prints for slides or pictures of any national historical place. Class 1.

3750—Earl Cunningham, 1110 S. Graham St., Charlotte, N. C.
3¼x5½, various developing papers, of pets, birds, nests, etc., views in pipe foundry and general views of landscapes; for animals, seascapes, historical views, or anything of general interest. Class 1.

CHANGES OF ADDRESS

947—Harry M. Biggin, 15 N. Main St., Sharon, Pa. (Was 60 Ellsworth Ave.)

2596—Maurice Windus, P. O. Box 194, Pullman, Wash. (Was Spokane, Wash.)

2942—R. C. Smith, Box 1209, Butte, Mont. (Was Anaconda, Mont.)

3362—H. H. Clarke, office of Solicitor, Department of Agriculture, Washington, D. C. (Was Missoula, Mont.)

3465—D. L. Billings, University Club, 54th and Fifth Ave., New York. (Was Louisville, Ky.)

3595—Major Wm. R. Eastman, Medical Corps, U. S. Army, Fort Riley, Kan. (Was New York.)

WITHDRAWALS

3394X—George B. Ley, Lock Box No. 2, South Akron, Ohio.
Am forced to withdraw from the I. P. A. on account of business which forces me to give up the pleasures of photography. I will give notice when ready to again enter the exchange, and in the meantime ask that all those who owe me cards will send them.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

George F. Bardin, an old employee of the Portland Photo Supply Company, died the latter part of January.

E. H. Stone, of the California Card Company,—and his pipe, were in evidence at Portland during the writer's stay there in February.

Dick McMann, the ever-generous manager of the Northwestern Photo Supply Company, again displayed his liberality by expressing a desire to purchase liquid refreshments on election day. He of course did not know there was none obtainable.

Kirkpatrick, the home-portrait man from the Sunny South, is with James & Bushnell, of Seattle.

Mrs. Anna Grady, of the Hartsook Studio, spent a month in Seattle recently.

H. L. Richardson, of Premo fame, glided into Portland early in March. "More business than ever."

Harry Lovick, the popular paper demonstrator for the Eastman Kodak Company, spent all of March in Portland.

The photographers of the Northwest want to know if Clute needs any money with which to get out his February issue. They say they do not like to wait so long for such a valuable magazine.

Atlanta in June

The National Convention to be held June fifteenth to twentieth at Atlanta, Georgia, promises to be one of the best the Photographers' Association has ever held. The picture exhibit will be more than a showing of portraits. The pictures will be graded by the judges and all those rating above sixty-five per cent will be placed in the accepted class. All the prints will be hung and the judges will be in charge of the exhibit at all hours of the day, ready to give private criticism of the pictures to any one. This will enable every one to obtain specific information as to the judges' opinions of the relative value of the portraits and will be much more instructive than a careless examination of the exhibit. Never before has the opportunity been given to every one to secure the private criticism of competent judges. Twenty-five dollars each will be paid for the best pictures, not to exceed twenty in number, these to form the nucleus of a permanent salon.

Photographers who want to grow in the profession cannot afford to miss this Convention. The Photographers' Association of America is the one organization through which each photographer may secure the reforms which he would like to see accomplished, but which he cannot bring about single handed. This is the year we all get together and make the Association strong enough to accomplish national reforms for the profession.

The New Radion Studio Lights

Hirsch & Kaiser, the local dealers, will, in the very near future, have on sale the new Radio Studio and Home-Portrait Lights, ranging in price from forty-two dollars and fifty cents to fifty dollars, complete with cord, lamp, etc. The lamp is the new nitrogen-filled Mazda, and this is located in a large parabolic reflector, fitted to an adjustable stand that permits of a range of from four to eight feet from the floor. Fully exposed portraits can be made with the smaller size in less than one second, and with the larger size in approxmatiely half that time. The lamps have already been tested by Falk, the well-known New York photographer, and he endorses them as the best light yet devised for the purpose.

This nitrogen-filled Mazda lamp of the General Electric Company, with an average life of over two thousand hours and low consumption of only seven to nine amperes on the ordinary 110-volt house circuits, it is economical in the extreme. The home-portrait lamp intended to be used on the ordinary tripod weighs only nine pounds, being cast in aluminum, with the reflector spun from the same material. All our readers interested in artificial illumination for portrait work of any description should see these new lamps at the store of Hirsch & Kaiser or write them if out of town. Readers in other sections of the country should at once get into communication with the manufacturers, H. C. White Company, 502 River Street, North Bennington, Vermont.

$5,000 Loveliest Women Contest

Announcement recently of Ansco Company's five thousand dollar "Loveliest Women" Contest created intense interest in amateur and professional photographic circles. Blanks containing conditions of the contest were eagerly secured from the thousands of Ansco dealers, and you would be surprised to know the vast number of photographers who are already at work photographing their "loveliest woman." Today is the day to begin. You should get your contest blank right away, understand the simple conditions and what a fine chance everyone has to win one of the fifty prizes that range from five hundred dollars down to fifty dollars for a single photograph.

We cannot conceive any more attractive contest for the photographer interested in increasing his business by announcing that he intends to compete and asking the lovely women of his town to help him by coming to him to be photographed. Here is a chance to do some big work, to earn some big money and to become nationally famous. The inducement is very great to every woman who naturally wishes her beauty perpetuated and to every man who is a lover of the women of his family. The Ansco Company is particularly happy to have received so many congratulatory letters from professional photographers. All agree that the novelty of the contest is not only appealing, but that the idea of exhibiting the winners before the people at the Panama-Pacific Exposition adds immensely to its value as a national affair.

Conditions are so simple that there are practically no restrictions. For instance, you can use any style camera, or any film, plate or paper. Just say which on your entry blank. What the Ansco Company is primarily interested in is to secure the photographs of America's fifty loveliest women and to make the exhibition at San Francisco the most memorable in the history of the photographic art. Get your friends interest and take the right sort of spirited interest yourself. Your loveliest woman is right at hand. Begin now to work for the pictures that may prove her one of America's fifty loveliest women.

Talk to the Ansco dealer nearest you about this contest. He will help you. Get the pride of your home place into your heart. Wouldn't it be fine to have one of the home girls win a prize,—to be known as one of America's fifty loveliest women? There will be more news coming out soon concerning this contest. Watch these pages closely.

Improvement in Cooke Lenses

We are advised by the Taylor-Hobson Company of some decided improvements in their series II Cooke lenses. These are the "universal" anastigmats made by this firm for high-speed photography in dull lights, and in fact for all classes of work demanding lenses of large covering power and keen definition at f-4.5. Not only have the lenses been improved in defining power throughout the plates for which they are listed, but the circle of illumination has been increased so that these high-speed lenses may be used for wide-angle work on larger plates. Moreover, the mounting has been perfected, and the lenses are mounted with such compactness that they can be fitted to all makes of cameras capable of receiving high-speed lenses.

Notwithstanding these developments, the selling price has been reduced appreciably, and the Taylor-Hobson Company claim that they now offer the most complete as well as the best line of high-speed lenses on the market.

Yto Paper

This is a new printing paper that gives black, red or brown tones, and all intermediate shades, by a varied exposure and development only. No dark-room is required, no toning is required, and results are like carbon or platinum. The greatest difficulty in photography up to the present, has been to secure satisfactory warm tones by a single and simple process by exposure to artificial light and subsequent development without toning. This problem has been solved after many years' research and we can now supply paper with an emulsion producing results as indicated above by exposure and development alone.

The process is entirely different from any on the market and possesses obvious advantages. By it, tones are secured ranging from warm black to cherry red, including all the shades of brown, sepia, and warm sepia. Daylight is not required for printing, nor is a dark-room necessary. Printing and development can be done in an ordinary room fully lighted by gas or electricity. No expense is incurred by a special developer, as all the developing agents in general use for the development of plates or paper will give satisfactory results — for instance: Metol, quintol, rodinal, pyro, rytol, etc., may be used. J. L. Lewis, 522 Sixth Avenue, New York, will be pleased to send you a dozen white or cream, 4x5 size, with full directions, for twenty-five cents.

The New Korona Catalogue

We have just received a copy of the new catalogue issued by the Gundlach-Manhattan Optical Company and would advise all our readers to send for one of them. It is very complete in its description of their excellent line of cameras and also the Turner-Reich and other well-known lenses made by the same firm. Particularly interesting is the new Home Portraiture Outfit and the Panoramic View Camera that this firm is offering. The catalogue is a handsome piece of printing and one that will be found very instructive and interesting by our readers. Copies can be obtained by applying to the Gundlach-Manhattan Optical Company, Rochester, New York.

A Fine Shutter Release

You had trouble with your release. Every camera user knows the disappointment, when full preparations have been made to snap a picture, to find that his rubber tube release has dried and cracked. Do away with your rubber tubing and secure a Montauk Push Cord Shutter Release. It is not affected by changes of the weather and will last a long while. They are neat and attractive. Send to G. Gennert, 24 and 26 East Thirteenth Street, New York; 320 South Wabash Avenue, Chicago, or 683 Mission Street, San Francisco, for circular.

Get a Copy, Sure

"Simplicity and Success in Photography" is the title of a most informative and instructive booklet containing a wealth of practical photographic knowledge for the worker who wishes to turn out a larger proportion of good pictures. It is sent free upon request by Burroughs, Wellcome & Company, Literature Department, 35 West Thirty-eighth Street, New York. Do not neglect sending for a copy and you will thank us for calling your attention to it.

Stanley McGinnis Lectures on the Exposition

Mr. McGinnis, who has been placed in charge of the preliminary work for the Colorado exhibit at the Panama-Pacific Exposition, gave an illustrated talk on the subject of Exposition before the University Club of Denver on the evening of March seventh. He used a series of colored slides showing how nearly complete were the buildings, and these, together with maps and his descriptions, gave his audience, a most appreciative one, an excellent advance view of the great Exposition.

Artificial Light Equipment

Progressive photographers are rapidly appreciating the absolute need of dependable artificial light for negative making. Large numbers of them have installed the Victor Studio Flash Cabinet and all users of it speak of it in the most complimentary manner. If you are without satisfactory artificial light, you had best write at once to J. H. Smith & Sons Company, 3541 Cottage Grove Avenue, Chicago, for descriptive booklet and full particulars.

A Color Toning Process

The Berlin Aniline Works have worked out a process for toning transparencies and lantern slides with Aniline Colors, which process lends considerable leeway as to combination of toning and tinting of the film. The Berlin Aniline Works designate these colors as the "Agfa" Toning Colors. Full instructions together with shade card will be furnished to parties interested in taking up this process. Write the Berlin Aniline Works, 213 Water Street, New York, for information.

It Answers a Lot of Questions

"A Short Talk on Negative Making," is a valuable little booklet that will answer many of the questions that arise from day to day in the studio and in the dark-room. It gives information that will help one over many difficulties and were its value known there would be a copy in the hands of every photographer in the land, particularly as a post card request is all that is necessary to bring one. Mention this magazine and address, Hammer Dry Plate Company, Ohio Avenue and Miami Street, St. Louis, Missouri.

Notes from The Illinois College of Photography

Victor Dominguez has finished a course in photography and returned to his home at San Jose, Costa Rica, where he will open a modern studio.

Bert Green, of 1912, who has been managing a newspaper engraving plant at Decatur, Illinois, has returned to take up advanced engraving and three-color work.

Mrs. Roy Graves, of Chadron, Nebraska, a student of 1909, has returned to the College to finish her course in photography. Since leaving the school she has been assisting in her husband's studio.

Prof. R. J. Latshaw "rode the goat" into the local lodge of Elks and is now one of the "best people on earth." We have always considered him as in that class and are very glad that his qualifications have been officially recognized.

The College Camera Club held its quarterly election of officers last month, and Messrs. Heebner, Hopsecker and Hill were elected president, secretary and treasurer, respectively. The Contest Prizes were won by Mrs. Child, Mr. Heebner and Mr. Ludwig.

Miss Laura Baugh has taken a position in the Bradley Studio, of Georgetown, Kentucky. The Bradleys were former students at the College and are doing a very successful business. They recently sent a very fine exhibit of their portrait work to the College.

Those Home Scenes

Probably the most attractive field of photographic work, for the majority of workers, lies in the home life and surroundings. Actino Flash Cartridges will solve the light problem for this class of work most satisfactorily. They give the maximum light with minimum of smoke, and are put up and designated according to the space they will illuminate. This feature practically insures correctly exposed negatives. A trial will delight you with the results obtained. Any dealer will supply you with them.

Most amateurs will at times under-develop their plates, thereby getting negatives that are too thin to produce good prints. These negatives can be easily transformed into good printers by the use of Victor Intensifier. It is quick acting and very simple to work. Try it today on some of your under-developments and you will never be without it.

A New Kansas Studio

Just as soon as the rooms can be fitted up, the new firm of Johnson & Moose will invite the patronage of the residents of Pittsburg, Kansas and the surrounding territory. The new firm is made up of Roy Moose and Belle Johnson, a guarantee of the success that good work and enterprise are sure to command. They certainly have the best wishes of a host of old friends.

The New Graflex Catalogue, 1914

We have seen, each year, a handsomer catalogue of the Graflex and Graphic cameras, until it seems about all that can be said is that the new one is even better than its immediate predecessor, all the available good words having been used in describing this last. This time let us give the information contained a little more attention, particularly as there is much that is really informative in this last edition. The new Auto Graflex Junior is a model that will interest that growing army of small plate users who appreciate the advantage of a lighter load and a lesser drain on the purse, via the small negative and enlarging route. And, talking about the purse, the marked reduction in the price of the standard anastigmat lenses that one can have fitted to this line of cameras is very interesting. The Home Portrait Graflex, the Speed Graphic, and the Cirkut camera are all described as fully as any of the others, while magazine plate holders, color-plate holders, tilting tops, and several other interesting utilities receive attention. If your dealer does not supply you with a copy, send for one by all means. Address, Folmer & Schwing Division, Eastman Kodak Company, Rochester, N. Y.

Send for a Sample

The advertisement of The Photo Product Company, this month emphasizes a feature of Instanto gaslight developing paper which they tell us is especially admired by users. In these days of rush we all like things quickly. Instanto cuts down the time required for exposure and makes it unnecessary to use a strong printing light. If you have not already done so we would advise you to part with twenty-five cents and try this paper which seems to be making such a hit with the amateur. You will not lose for if the samples fail to please you they will not only return your quarter but will send another to pay you for your trouble. The address is Department E., 6100 La Salle Street, Chicago. Mention CAMERA CRAFT when writing.

Well Worth Sending For

There is a very meaty little book, "A Short Talk on Negative Making," that can be had for the asking; and, the photographer who neglects to drop a line asking for a copy is missing a good opportunity to read a most instructive little book. Simply mention CAMERA CRAFT and ask that a copy of the booklet be sent, addressing, Hammer Dry Plate Company, Ohio Avenue and Miami Street, St. Louis, Missouri.

"Gameland"

"Gameland" is a neat little magazine published for the American trapper, hunter and raw fur trader, by David E. Allyn, Madrid, Iowa. Any of our readers who may be interested along these lines should not fail to write Mr. Allyn for a sample of his most interesting magazine. He, the editor, has been a trapper for a great many years and certainly knows how to interest his readers. In the February issue he starts a charming story of his own experience, entitled, "Back Over Winding Trails," and, if as interesting as his former one, "After Fifty Years," the story alone will be well worth the price of subscription. But send for a copy and see if our judgment is not sound on the subject.

Give These a Trial

One of the most remarkable speed plates introduced on the American market in recent years, according to Thomas Hadaway, of Allison & Hadaway, 235 Fifth Avenue, New York, is the new A. & H. importation of Marion & Company's Record Plate. A great number of sample packages were sent out by Mr. Hadaway to prominent photographers, both amateur and professional, with the request that they be tried out for speed, latitude, fineness of grain and freedom from fog. The reports received from these sample packages were so unanimously favorable that the company has increased its order for immediate importation. Efforts were made to secure additional sample boxes, but owing to the fact that the English factory was overtaxed in its attempt to keep pace with the demand in England, it was impossible to secure a new supply. Therefore, those interested in extremely fast plates should send immediately for a full-sized box, remitting the price as given in their advertisement on another page.

The Paget Plates

Tuesday evening, January 17th, a large number of the members of the California Camera Craft enjoyed an explanation of the Paget Color Plate Process, given by A. K. Hanks, representing the American Agents, Herbert & Huesgen Company, of New York. A number of excellent lantern slides made by this process were projected upon the screen by means of a five ampere Bausch & Lomb Balopticon, and the brilliancy of the result were such as to demonstrate perfectly the feasibility of making color plate lantern slides that could be projected with a lantern of this kind, one that is capable of being attached to any ordinary incandescent lamp socket. Not only was the brilliancy of the slides demonstrated quite successfully but the utility of the apparatus used was also made most evident.

Mr. Hanks also showed and explained the new Tourist Multiple Camera, complete with projector, a particularly interesting piece of photographic apparatus manufactured by his firm. The camera is of the finest workmanship and uses the standard perforated motion picture film in fifty foot rolls, affording a capacity of seven hundred and fifty individual pictures without reloading. This camera is not only an ideal instrument for the tourist but it will interest the large and growing class of photographers who are fast learning that the use of small negatives greatly simplifies the work and the expense of their photography. The whole or a portion of the seven hundred and fifty exposure film can be removed and developed and a positive made therefrom at an approximate cost of about two cents a picture. These positives can then be run through the projector, showing the pictures on an eight foot or smaller screen; and, of course, they will be shown in the exact sequence in which they were made, a feature of no small importance to the tourist. Quite a number of our local and other Pacific Coast dealers have placed handsome orders with this firm for both this new camera and the Paget Color Plates and supplies, so that it will hereafter be quite convenient for us to secure these goods.

XXI No. 4 APRIL, 1914 Price, 10 Cent

SAN FRANCISCO
PUBLIC LIBRARY

CAMERA CRAFT

SAN FRANCISCO
CALIFORNIA

A photographic contest decided the superiority of Cyko

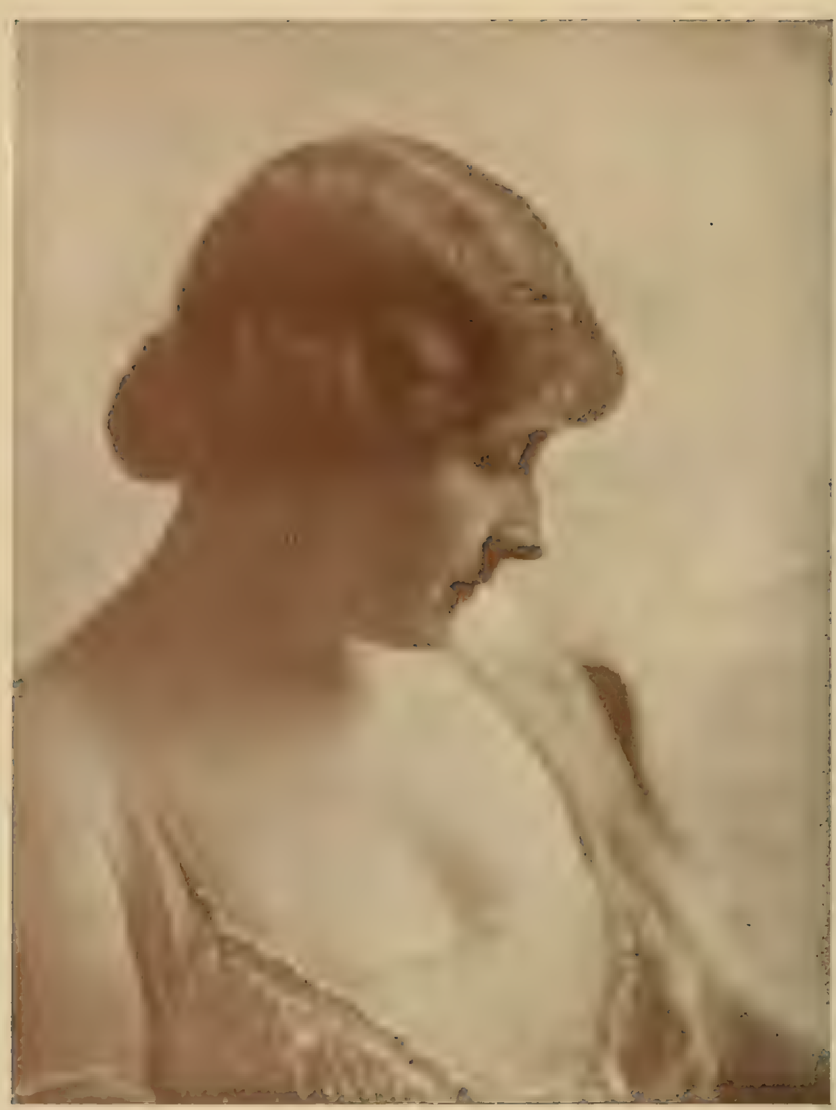
A LARGE retailer in a western city, who had never handled CYKO, came to Binghamton a few days ago, and unsolicited, placed an order for $10,000 worth of CYKO PAPER to be shipped at once. He told us the reason back of this order, which is as follows:

He had just closed a contest free to all and with no restrictions as to materials.

The announcement of the contest was sent only to his list of customers who had been hammered for years to use other papers than CYKO, but in spite of all, of the tons of prints entered 60% were on CYKO!

He figured that he could not afford to lose the paper business of 60% of his own customers, hence rushed to Binghamton with an order.

Ansco Company **Binghamton, N.Y.**



A PORTRAIT
By O. H. BOYE

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY
FAYETTE J. CLUTE, Editor and Proprietor
CALL BUILDING SAN FRANCISCO CALIFORNIA
VOL. XXI APRIL, 1914 No. 4

The Work of a Press Photographer

By Edward A. Trabold

With Illustrations by the Author

The newspaper branch of photography differs a great deal from the general run of photographic work, in that the photographer only has the one chance to cover his particular assignment and must make good at the time or else be branded a failure as a press photographer. He must have an unlimited supply of "nerve" and, no matter what difficulties or dangers present themselves, be determined not to leave the spot until the event is photographed.

The press photographer, if he returns unsuccessful, receives no sympathy from his managing editor; and, no matter how true and good his excuses may be, it does not soften the wrath of that important personage. The latter feels that in all possibility a rival sheet was getting a "scoop" over him at the very time, and to have another "scoop" your paper is an almost unpardonable sin in the eyes of the staff. It is easily understood that the photographer cannot, must not fail, if he is to hold his job. I might also suggest that in applying for this same job one should not send in too many samples of his work, no matter how good they are; for, while they may help to secure the position, if one's actual every-day work does not grade up to these samples, too fine a lot of specimens really do more harm than good.

Like a reporter, the press photographer must be in readiness to start at a minute's notice, whether it be day or night, near or far, pleasant or stormy. Many and many a time, on a bitter cold night, I have been awakened from a most comfortable sleep to find I had an assignment a long distance from town. I recall one instance, an important wreck about two miles out of the city. The reporter and I had to walk, as no conveyance could reach the spot. When we did arrive, the wind was blowing with such velocity that we had to hold the 8x10 with all our strength, and the powder blew from the gun as fast as I could put it on. After many unsuccessful attempts, I finally succeeded in making the necessary flash. Then we had to walk back through a blinding snow-storm, and when we reached the office our feet were soaked, our bones ached, and we were chilled through. But when we saw the result and learned that our paper had scored a scoop, we agreed that it was well worth the effort. The press photographer must have at least normal physical strength, as well as photographic ability. One is often sent on his assignment without a reporter, and he is then expected to take the necessary notes himself, thereby doing double duty. But one should not let all this discourage him; for, if he be a true lover of photography, the mode difficult the assignment and unfavorable the conditions, the greater the feeling of satisfaction and elation over work well done that follows the production of good results, feelings that are not occasioned by the filling of the easy assignments.

THE HOOSAC TUNNEL WRECK ON THE BOSTON & MAINE RAILROAD

Some papers furnish at least one camera, and others none at all. I myself have an 8x10 and a 5x7 view box, a special banquet, a 3¼x4¼ Graflex, and an enlarging camera. Some foreign makes of the reflex type of cameras are provided with a swing-back, a rising and falling front, and a revolving back, and these adjustments would add to the value of our own excellent ones. If one is unable to have all of these, the most valuable, in my opinion, are the 3¼x4¼ and the enlarging camera. With these alone, very fine results are obtainable in a majority of cases. Some sort of flash-gun is necessary, and one also really

THE MONOPLANE WRECKED IN A FALL

needs a flash bag for banquets and the like where the smoke resulting from an open flash would be very disagreeable to the guests. My own gun I reconstructed from a fifty-cent spreader flash lamp, made small enough to be carried in the pocket. This I achieved by cutting off half of the gun, keeping the other or trigger and handle part, for use. For small banquets I use a Smith's Dependable Flash Bag and for larger gatherings the Prosch equipment.

The finishing of newspaper work is always "wet work." The plate is developed in the usual manner and fixed in a strong fixing bath. It is then simply rinsed in cold water, laid film side up upon a smooth surface, a lintless blotter placed over it and rolled one way only with a heavy squeegee roller, and then the back of the plate is dried with a clean piece of cloth. Next the plate is

AN EARLY MORNING WRECK ON THE RUTLAND RAILROAD placed in the printing frame or on the glass top of the printer, the film side covered with a sheet of celluloid, and lastly the paper is placed in position. The print is then made in the usual way, except that a trifle more exposure is given for prints from wet negatives. When in a special rush I have printed from the negative without taking time for fixing. The unfixed negative can be safely used only for daylight printing, as the heat from the electric light would be quite sure to melt the soft emulsion on the plate. This "wet work" is also very fast work. Many a time I have had an 8x10 enlargement from a 3¼x4¼ plate ready for use within ten minutes from starting to develop the plate. All prints should be ferrotyped, if time allows, as they make better cuts.

Any of the popular fast plates may be used to advantage, and it is well not to use a greater shutter speed than is absolutely necessary. One should work with the light, not against it, whenever possible, as a great many negatives are lost by neglecting this precaution. As an insight into the real work, it will probably be of more interest to the reader to learn under what conditions and by what methods some of the accompanying photographs were taken, than to read more abstract suggestions.

When Mrs. Pankhurst, the eminent suffragette, paid a visit to North Adams, Massachusetts, two years ago, she positively refused to pose for our paper, so it was up to me to get her unawares. I asked the reporter, who was with me on the assignment, to engage her in conversation for a few moments, which he did, while I set up my 5x7 camera, focused, and prepared for the flash, it being evening. Then, when the reporter stepped to one side, I pulled the trigger of my flash-gun and I had Mrs. Pankhurst, even without her consent.

The picture of the wreck in the Hoosac Tunnel is a government photograph, taken under great difficulties and with danger to the lives of those about. I went in on the relief train, being the only photographer allowed to enter the tunnel. The wreck had taken fire and the terrible heat loosened many of the rocks, causing them to fall at intervals. The great electric cables were torn from their places and contact with one of them meant instant death. The air was dense with smoke and the rock floor nearly red hot; so hot, in fact, that the soles were burned from my shoes. We were two miles from the nearest entrance and it was very difficult to breathe. I had to fire a flash in order to get anything, and this was done with a hazard to life, as it caused more loosened rocks to fall. The men in the foreground did not realize this danger until too late to do more than dodge them as they fell. I made several records of this awful catastrophe and copies are now on file at Washington, D. C.

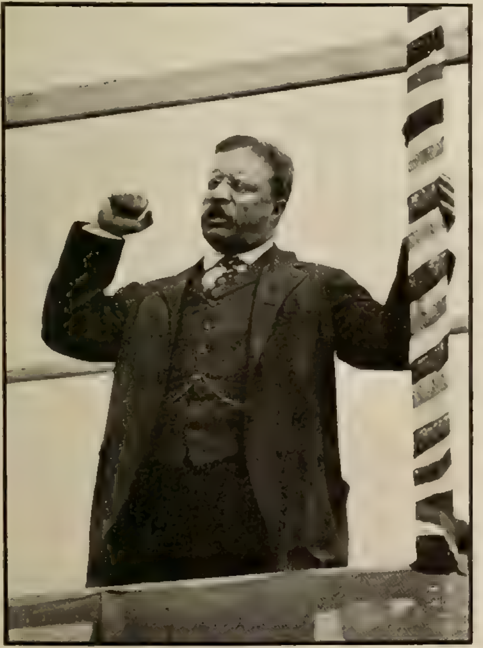
Fire pictures also mean much danger from explosions, falling walls, bursting hose and the like. In the fire photograph herewith, taken at daybreak, is shown part of a blaze which wiped out an entire square of the business section of our city; the walls of a large building are seen falling. I had permission to work inside the fire line and there the heat was intense. I was using my 8x10 and had to keep my eyes open in order to avoid falling beams and flaming pieces of woodwork. The fire started during the night, and of course I was assigned on the job as soon as it was known that it was more than a small blaze. My night pictures I also took with my 8x10, giving a few minutes' exposure followed by a flash to get details in the foreground; and they were excellent.

WORLD'S CHAMPION DRILLERS

THE FALLING WALLS OF A LARGE BUILDING

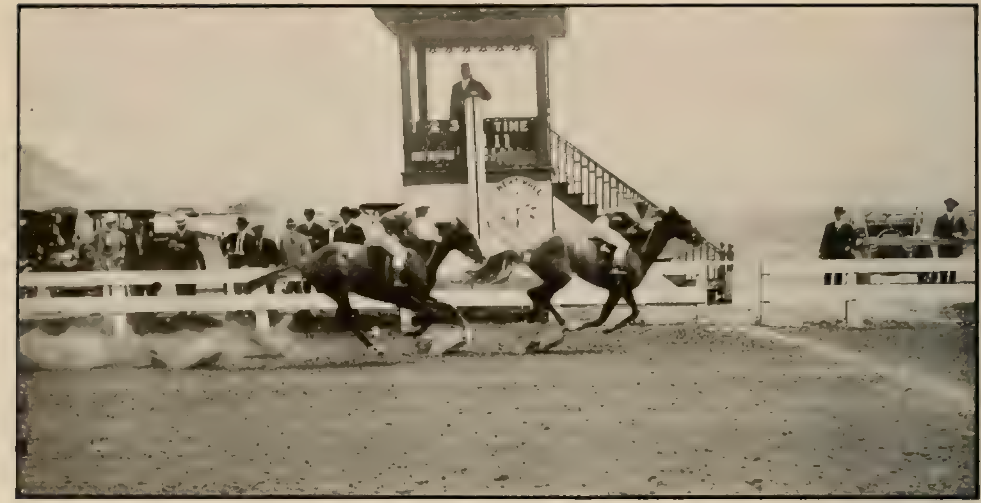
In taking pictures at a fire, it should be remembered that some of the smaller incidents, such as coffee being served to the firemen, a group of firemen in some particularly dangerous position, a rescue, or possibly an ice-coated fireman if it be winter, make good news pictures. One must be on the lookout for anything of interest to the public and he must know no fear in getting the picture. A cool head is most necessary.

The fallen monoplane was taken about two minutes after it struck the ground. With the rest of the fair-ground crowd, I ran for it, pushed my way through, snapped it with my Graflex, which I had with me, and got back to the



OUR OWN TEDDY

MRS. PANKHURST



THE RACE FINISH

city before the other papers were hardly aware of the accident, and thus secured a scoop.

My Graflex I use for all speed pictures such as the race finish reproduced herewith. This I snapped in the eleven one-hundredths of a second. To get such a picture I focus the camera on a point beside the rail which the horses must pass; or, if I am lucky enough to get on the track, I focus upon the track itself. Then, as the horse or horses are seen, on the ground glass, to reach this spot, the shutter is snapped and the picture is secured.

In such pictures as this of the World's Champion Drillers drilling through forty-seven inches of granite in fifteen minutes, at Butte, Montana, care must be taken to snap the shutter at the right moment or the effect is lost. For example, had the hammer been lowered, it would not have been as conspicuous against the dark background of the mountain and the "action" would have been lacking. It is the attention given to such small details that adds greatly to the value of pictures for the press.

Prominent men are often extremely hard to get, as they will rarely pose for a picture, and here the Graflex is of great import, as most of them do not object to being snapped if unawares. It is really the posing that they find objectionable; and, in fact, pictures showing them in action, as during the delivery of a speech, are of much more interest to the public than pictures that are merely posed. I could write of innumerable photographic assignments, some humorous, but most of them otherwise, but I believe the few instances cited will prove sufficient to give an insight into the work.

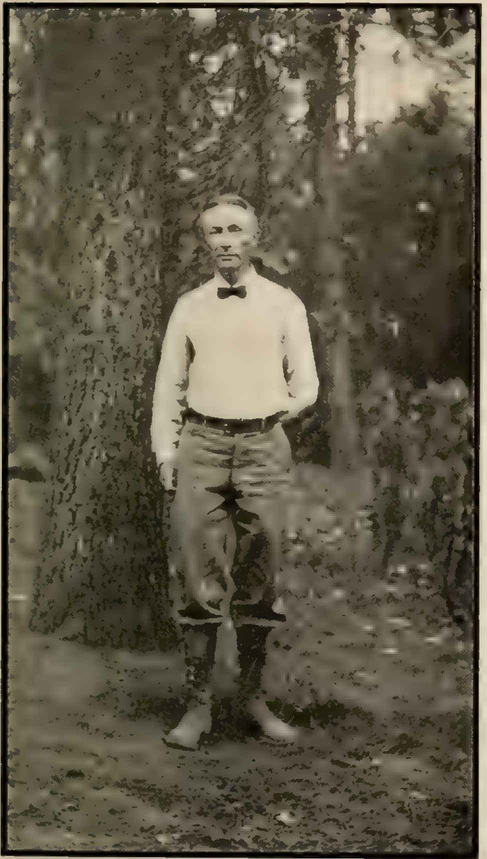
So, if one has plenty of nerve, understands his tools, has the ability to turn out rapid work, craves excitement and even a little danger, he need not hesitate to take up newspaper work; for, so equipped, he will be almost sure to make a success in the exciting role of press photographer.

Why be troubled with a shutter that sometimes fails to work? A year's subscription to Camera Craft costs only one dollar.

Summer Resort Photography

By O. C. Heer

With Illustrations by the "Old Chap"



"AN OLD CHAP I CAME ACROSS"

Come, you amateurs, I want you to meet, in print, an old chap I came across in the mountains of California near a cluster of resorts to whose patrons he sells his "picter" post cards of the views, themselves, their dogs, cats and what not, including "the ole swimmin' hole." He was once a city dweller himself, located in a skyscraper, with amateur photography as a hobby on the side; but, like many another, he finally "caved" and came away, a sadder and wiser man, to occupy a little cabin among the pines, to sleep in the woods and to be content if the tools of his amateur days yielded him a living wage.

He has two 5x7 cameras that are always used with tripods, as follows: Outfit A, equipped with rectilinear lens in a Bausch & Lomb shutter; Outfit B, equipped with anastigmat lens in Sector shutter. Wooden kits fit into his 5x7 plate holders to accommodate plates of post card size, 3¼x5½ Stanleys, which he has used with unvarying success for years. Cyko cards are used, the normal for negatives of sharp contrast and the harder grade for thin or flat negative. He does not claim that any certain make of plate or post card is better than any other, but has consented to acquaint you with his outfit, specify his ammunition, and then take you out shooting with him.

Come on; he has taken Outfit A and is off. Let's see what he does with it. It being summer, the light is at its best. Now he unlimbers his pack for a mountain scene. "Does he focus on the foreground, the background or the middle distance?" you ask. He answers: "On the principal object, using the largest stop, then swinging into place the smaller stops, one after another, until the three planes you inquired about are as nearly all in focus as possible." In this instance he employs a U. S. 64 stop and gives the exposure marked one second. Next he visits one of the resorts and takes a full-length portrait of a tourist. This, in order to get results, must be in complete shade, never in the sun; say in the shadow of a building or in the forest aisles or at close of day when the sun has just set behind the western hills. When he has sharply focused the subject on the ground glass, using the largest stop, he does not alter that stop, but employs it for the portrait, with exposure marked one-half second. Should the subject be mounted on horseback, the bright sunshine is preferable, with stop U. S. 16 and one-fifth second exposure.

There he goes again, this time with Outfit B, which has an extra rapid or anastigmat lens, as against the other, which was a rectilinear, effective but slow. Addressing himself to the taking of another mountain landscape, he used stop U. S. 32, with an exposure of one-twentieth second. Next, more full-length portraits, in complete shade, but always well lighted and with the subject facing the source of light. Now, as with the other outfit, he employs the largest stop, but with exposures of one-twentieth second. If the subject is a child that is likely to move at any moment, he sets the shutter for one seventy-fifth second. The sun has just set; hence, while exposure one-twentieth second answered for the first portrait, succeeding portraits, while the light is waning, require a slightly longer time, say one-tenth, next one-fifth, one-third, etc. Such sundown work is safe, in summer, for about ten or fifteen minutes, following the departure of "Old Sol," says the informer. He adds, in passing, that groups or individuals on horseback, in sunshine, require the use of stop U. S. 32, with an exposure of one-twentieth second; in shade, one-fifth.

He tells me that while an amateur he used Outfit A with the largest stop, for everything, because it simplified the exposure problem by reducing them to two in number: in sunshine, one-fiftieth second; in shade, one-half second.

Another thing occurs to him, he says, which is: "If the use of each succeeding smaller stop gives greater definition and sharpness up to the limit of the plate, why not always use the very smallest stop and thus secure the maximum of definition where the subject is either still life or scenery?" Apropos of this, he adds that he has done so with Outfit B, and finds it works perfectly, using stop 256, with exposures of one second for sunshine and two seconds for overcast or slightly cloudy days, using either watch-ticked seconds or the old method of saying, "One thousand and one, one thousand and two," and so on. Some of his late views of waterfalls, in canyons so dark that it was difficult to see the image on the ground glass, were thus taken with stop U. S. 256, exposure ten watch-ticked seconds.

There he goes to his dark-room with his exposed plates. Shut in, with ruby lamp lighted, he opens a package of Seed's metol-hydroquinone developer, removes two of the prepared powders and mixes them with eight ounces of water. These two powders in that quantity of water, he says, will develop twenty plates of post-card size. To this solution he adds five drops of a ten per cent solution of bromide of potassium to restrain possible over-exposure and give contrast.

WALMOND RESORT AND ENVIRONS

NORTH FORK, AMERICAN RIVER

The old chap pauses here to raise a warning finger to all amateurs who fail to possess that prerequisite to dark-room success, a thermometer for liquids, used always for testing the temperature of the developing solution for either plates or post cards, which must be between sixty-five and seventy degrees to render development a pleasure. If too cold, development is slow, uncertain, imperfect; if too warm, the picture rushes into view and then turns black before it can be controlled. The "O. C." uses a metal tray, which, when filled with the fresh solution, he tips up until the developer runs into one corner; there he inserts the thermometer, when, if it shows a temperature of, say, forty degrees, he holds the tray over a coal-oil lamp, moving it back and forth the while and testing it at intervals until the warmth increases to, say, sixty-six degrees. He tells me that sometimes, on cold nights, he thus "toasts" the tray between each plate he develops.

THE COWBOY AND HIS PETS

THE "OLD CHAP" ON HIS CABIN PORCH

Now he removes an exposed plate from its holder and drops it, film side up, into the developer, meanwhile rocking the tray and also running the "cushions"

NEAR NEIGHBORS

NATIVE DEER

BULLDOG "OSKI"

SOME WALMOND POST CARD SUBJECTS THAT SELL QUITE WELL

of his finger tips gently over the surface of the plate to remove any air bubbles. He continues to rock the tray, which he keeps away from the ruby light except when, as development progresses, he wishes to observe it for a moment. Occasionally he lifts the plate, holding it between his eye and the ruby lamp, for final observation; he holds the tip of one index finger next the ruby light so that its shadow falls on the negative, when, if said shadow and the darkest part of the negative are about the same density, and also, if details appear on the back of the plate when turned over, it is "done." Then a brief bath in clear water and into the acid-hypo it goes, film up.

When the negatives are dry and it is night, the "O. C." starts to print. First he examines a negative by the light of his flat-wick coal-oil lamp and decides, from its density, whether it will require nine, ten or fifteen seconds to print; metol-hydro yielding a light, clear, quick printing negative, quite different from pyro, he says. With the point of his pocket-knife he scratches the number of seconds on the corner of the film, as a guide for all future prints; then, putting the negative and a fresh post card into the printing frame, the exposure is made. During this last, the printing frame is swung slowly back and forth before the lamp to insure uniformity in the printing throughout. In case one part of a negative is denser than another, that part must be held closer to the light by tipping the printing frame at the necessary angle, this last being determined by experiment.

Then again to the dark-room to develop the cards. For this work he compounds his own developer according to the following formula:

Water	40 ounces
Duratol	15 grains
Hydroquinone	75 grains
Sulphite soda, dry	1 ounce
Carbonate soda, dry	2 ounces

A WEE TOURIST

LITTLE "BILL" GEARY

AN INDOOR PORTRAIT

Place thirty-two ounces of hot, but not boiling, water in a large graduate, and add the chemicals in the consecutive order named, finally adding eight ounces of cold water to make the total called for.

Removing the cork of the stock solution bottle containing the above, he pours two ounces into a graduate, adds four ounces of water, with two drops of a ten per cent solution of bromide to restrain any over-exposure and also to brighten the whites of sky and view, stirs all together and pours it into the metal developing tray. Then he tests for temperature and drops in an exposed post card, face up, in a sort of sliding fashion, so that it shall be immediately covered at all points by the solution, meanwhile rocking the tray. As no weak light will hurt this development, the "O. C." removes the ruby glass from his lantern, leaving in it only the orange glass by which development can be watched with ease. The picture on the card comes up in a leisurely way, affording ample time to watch progress and also note completion, whereupon the card is taken out and washed quickly in a basin of fresh water en route to the tray of acid-hypo nearby. Into this last it is plunged, there to remain fifteen or twenty minutes, according to our informant, followed by successive washings in fresh water, then on to the cheesecloth frame for drying, and lastly, next trimming and delivery.

The ultimate aim which the worker sets before him ought always to have a touch of idealism, because it must always remain a little beyond his reach. The man who attains his ultimate aim has come to the end of the race; there are no more goals to beckon him on; there is no more inspiration or delight in life. But no man ought ever to come to the end of the road; there ought always to be a further stretch of highway, an inviting turn under the shadow of the trees, a bold ascent, an untrodden summit shining beyond.—Hamilton Wright Mabie.

Little Cameras To The Front

By Charles F. Rice

With Illustrations by the Author

EDITOR'S NOTE.—*Our readers will, we feel quite sure, appreciate to the full the work which Mr. Rice has done in order to place before them the series of pictures presented as illustrations to this article. While the deductions made are entirely those of the author—one who is quite partial to the small camera and its short-focus lens, the reader is furnished with the evidence on which those deductions are based and can, of course, draw his own. The lens used on the 5x7 camera was a Goerz Dagor and the quality of the work possible by a lens of that focal length cannot therefore be questioned. The small camera was an Ica Atom, fitted with a Zeiss Tessar lens in a Compound shutter, a typical "small" camera. Except in the case of the first pair of prints, Sigma plates were used. The author does not, at least to our knowledge, claim any superiority for any of these lenses, cameras, shutters or plates, over like equipment of the same class. Those used were employed because available and suited to the purpose of his experiments. We would be pleased to have the results of like experiments by other readers; and, should deductions of a different character seem the most logical from the results obtained, still further experiments will be suggested and no doubt more definite knowledge evolved.*

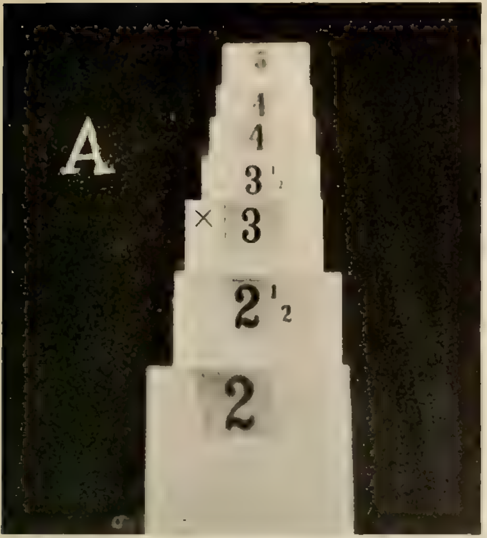
"So David prevailed over the Philistine."

Long ago in Old Testament times we see that mere size was no criterion of efficiency. David was but a stripling, yet he prevailed over the giant Goliath.

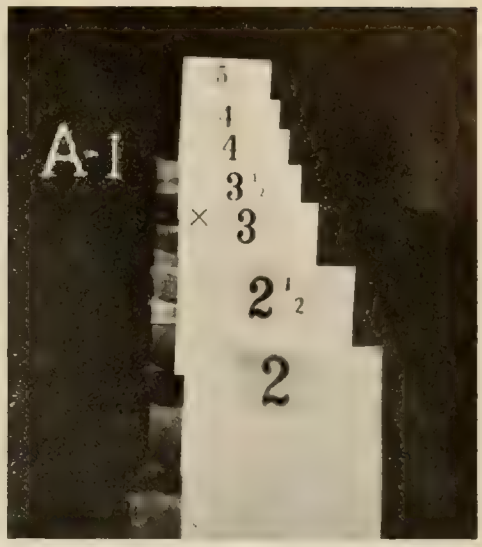
It is more than a year now that I have been working with miniature cameras, sometimes styled "vest pocket" cameras,—testing them, trying them out against apparatus several times as large, learning all the time more and more about the wonderful capabilities of the very small camera. I started out with the hope that I might be able to do nearly as good work by taking pictures small and then enlarging as I had been producing in direct prints from negatives made with a large camera. I found myself not only doing as well with the little camera as I had been able to do with the big one, but even better. Successive experiments have proven to me that in many ways the tiny miniature camera is very much more capable than its big brother.

Some of the things that the little camera can be depended on to do, I should hardly believe unless I had actually accomplished the results with my own hands. So I would scarcely blame anyone who reads this for doubting my mere "say-so." But I will accompany my text with a number of illustrations, which I think are convincing evidence, and trust the reader will take my word that there is no "fake" about them, nor has any extraordinary skill been employed in their production. Anyone who has had a little photographic experience could do as well or better, and where the results from a little camera are put side by side in comparison with the same subjects as secured by a large camera, please believe me, no attempt has been made to favor the little camera in any way.

The subject of little cameras is of particular interest since the recent reduction of the import duty on photographic apparatus, and the consequent increasing number of foreign-made miniature cameras which are now carried in stock by

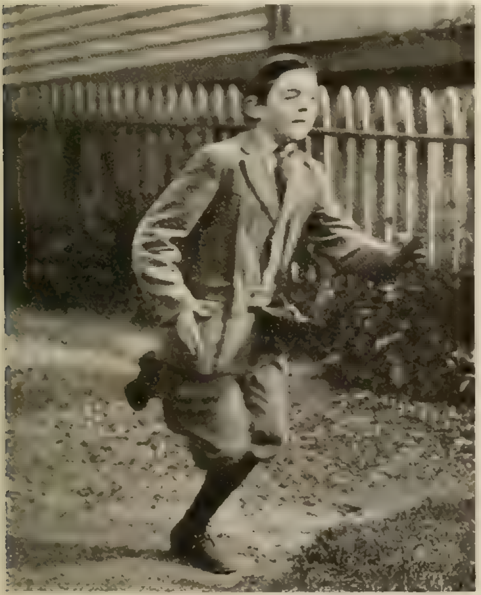


A: CONTACT PRINT—Seven-inch lens, f-11, one second exposure, Orthonon plate

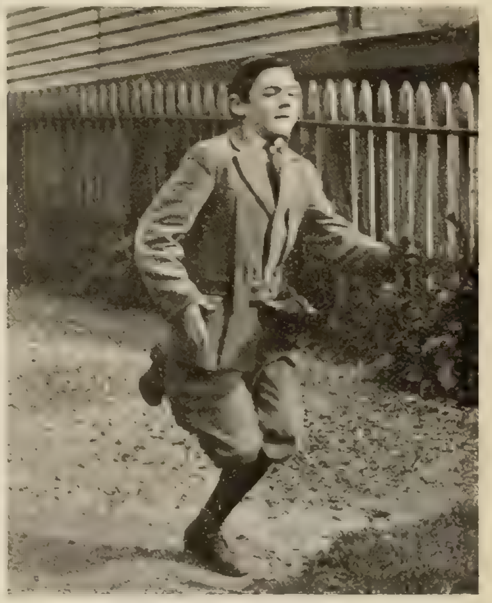


A-1: ENLARGEMENT — Two and one-half inch lens, one-tenth second exposure, Orthonon plate

These two prints are from negatives of a row of cards, numbered according to their distance in feet from the lens, from two to five feet, at intervals of six inches. Both lenses were focused on the "3" card, three feet distant from the camera. Note especially that f-4.5 was the stop used with the smaller lens, and that it gives greater depth of focus than does f-11 with the larger lens. Also that this difference in the stops allows an exposure of one-tenth second with the smaller camera as against one second with the larger one, the light action on the plate being about equal.



B: CONTACT PRINT—Seven-inch lens, f-6.8, 1/300 second, focal plane shutter



B-1: ENLARGEMENT — Two and one-half inch lens, f-6.8, 1/300 second, Compound shutter

Although both shutters were supposed to be working at one three-hundredth second, it will be seen that the little camera has stopped the motion better and has also given greater depth and shadow detail. The smaller negative is more dense than the large one, though developed the same, showing the greater illumination of the short-focus lens. I was quite fortunate to have secured these two exposures at exactly the same instant, as shown by the position of the figures. It is not easy to snap two shutters at precisely the same time.

American dealers. It is not necessary to enumerate different makes. My experience has been chiefly with the Goerz Vest Pocket Tenax and with different models of the Ica line, which line offers quite an extensive choice of miniature cameras, both in price and fitting. They are all well-made and serviceable instruments. The results speak for themselves.

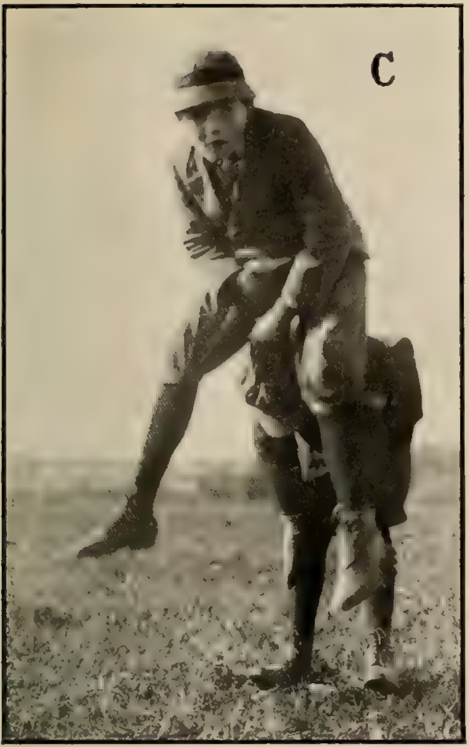
No one would think of making an 8x10 camera of fixed focus and fitting it with a cheap, single achromatic lens. Yet such was formerly the standard equipment of all cameras taking a picture smaller in size than 3¼x4¼ inches, even the best available. And even so, an 8x10 enlargement from the small negative made with a fixed-focus, single lens would frequently have a quality not to be excelled by a contact print from a negative produced by the most elaborately fitted 8x10 camera. Not until the little cameras were fitted with anastigmat lenses, focusing adjustment and efficient shutters, such as before had been put only on big cameras, however, was the true significance of it realized; namely, short-focus lenses are more capable than long-focus lenses of the same type. The three-inch single lens is more efficient than the ten-inch single lens, and the three-inch anastigmat is more efficient than the ten-inch anastigmat.

It is another David and Goliath story.

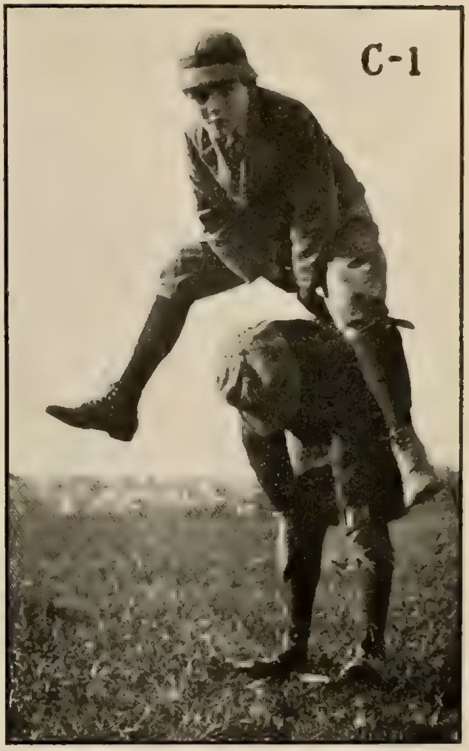
No one will dispute me, I dare say, in the assertion that small cameras are more convenient than large ones. They are compact and light, and even in the comparatively inefficient models of the past have shown a distinct field of usefulness because of these very qualities. The principal reason why little cameras have not heretofore found more general use was that their lens and shutter equipment was not of the best. And the reason they are now being adopted more and more generally for all sorts of photography is that very small cameras may now be obtained with the very best lenses and shutters such as were heretofore fitted only to larger cameras.

What do I mean by saying that short-focus lenses are more "capable" or more "efficient" than long-focus lenses?

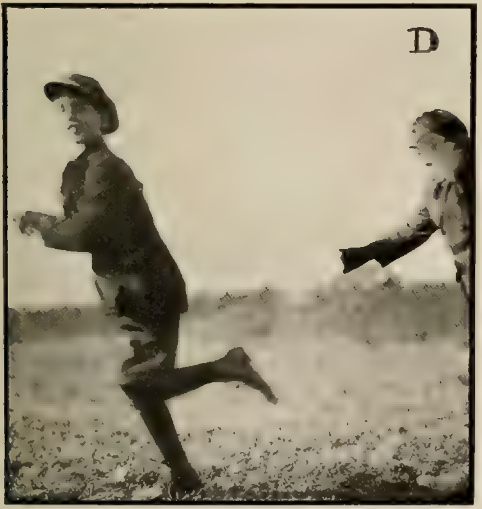
Depth of focus, also called "depth of field," is one of the qualities in which short-focus lenses excel. There is an old rule to the effect that depth of focus depends on the actual diameter of the lens opening, not on its size as related to the focal length of the lens with which it is employed. Thus, an aperture one inch in diameter is supposed to give just the same depth of focus, whether it happens to be f-16 with a sixteen-inch lens, or f-3 with a three-inch lens. I suppose that rule was made with the idea that the sharpness of the image should be judged by examination of the negatives or contact prints from them. Therefore the rule can hardly apply to the comparative illustrations accompanying this article, in which a contact print from a 5x7 negative is compared with an enlargement from a negative less than two and one-half inches square. But the illustrations show very plainly that f-6.8 with a seven-inch lens gives much less depth than f-6.8 with a two and one-half or three-inch lens, even when the image from the small lens is enlarged to the same size as that taken with the seven-inch lens. In fact, f-4.5 with a two and one-half inch lens will give greater depth than f-11 with a seven-inch lens. Do not take my word for it; look at the test pictures and see for yourself.



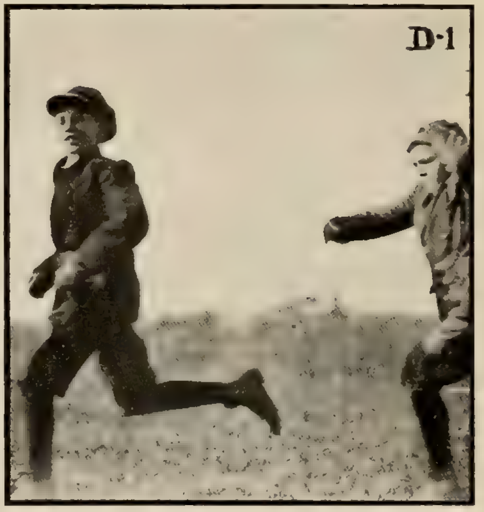
C: CONTACT PRINT—Seven-inch lens, f-6.8, 1/300 second exposure. Less sharp than C-1 made with same stop and exposure.



C-1: ENLARGEMENT — Two and one-half inch lens, f-6.8, 1/300 second exposure. Shows the superior speed of the little shutter.

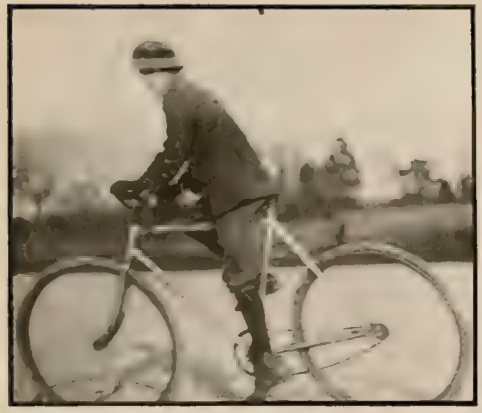


D: CONTACT PRINT—Seven-inch lens, f-6.8, 1/600 second exposure, focal plane shutter

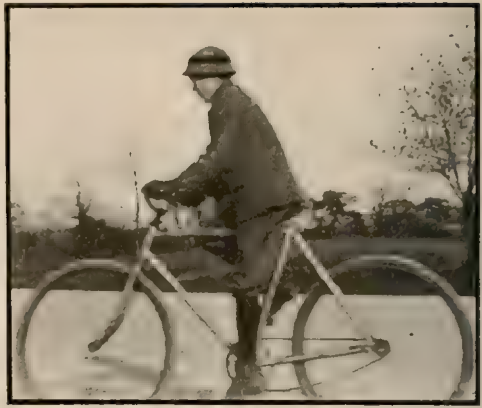


D-1: ENLARGEMENT Two and one-half inch lens, 1/300 second exposure, Compound shutter

On these comparatively slow speeds the focal plane shutter seems to have the advantage in the matter of light action, but with it the figures are made to lean forward and appear drawn out of shape like "tar babies." The background is less fuzzy in the enlargement from the small negative made with f-4.5 than in the contact print from the 5x7 negative made with f-6.8.



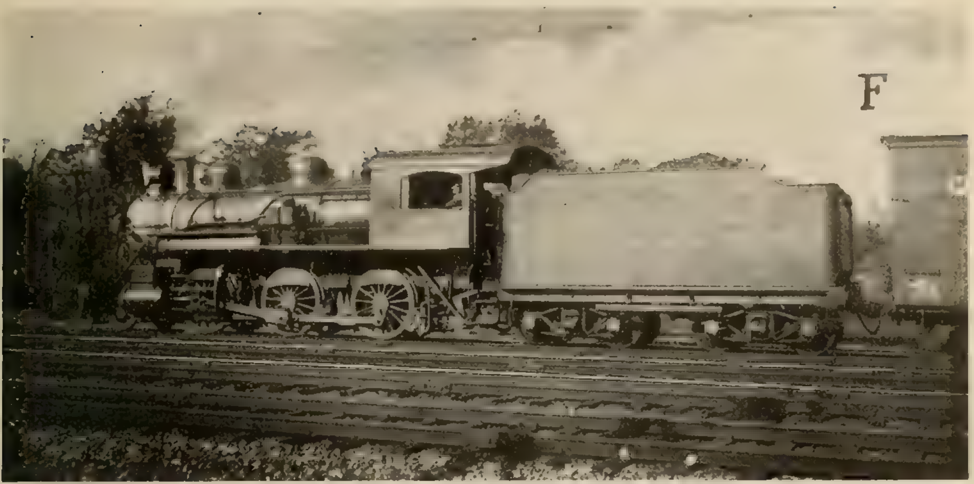
E: CONTACT PRINT—Seven-inch lens, f-6.8, 1/900 second exposure, focal plane shutter. Compare sharpness with that of the other made in one-third the indicated time, and also observe distortion and lack of the better illumination the larger stop should have given.



E-1: ENLARGEMENT — Two and one-half inch lens, f-11, 1/300 second exposure, Compound shutter. Although given three times the indicated time of the other and with a smaller stop, in depth, illumination and in lack of distortion, it compares favorably.

Light-passing ability. This property in a lens is supposed to depend altogether on the relative aperture that is employed. That is to say, an opening of f-8 in any lens whatsoever, be it a rectilinear or an anastigmat, of three inches or twenty inches focal length, is supposed to permit the same volume of light to reach the film or plate in a certain length of exposure. "One second at f-8" is supposed to mean the same amount of light action on the plate, whether the exposure be through one lens or another. I have satisfied myself, however, that a two and one-half or three-inch lens allows more light to reach the plate in a certain time than a seven-inch lens, the same relative opening being used in both lenses. Why it is so I will not attempt to say, for I do not know. The only reason I have ever seen advanced in explanation is that the short-focus lenses have so much less glass, and therefore less light is absorbed in passing through them. Be that as it may, the superior light-passing ability is one of the wonderful things about the short-focus lens; and when the fact is more generally recognized, you will see a revision of speed markings on exposure meters, according to whether the meter is to be employed as a guide in the use of short-focus or long-focus lenses.

There is still another way in which the short-focus lens excels. I do not know as I ought to say the lens, for it is really the shutter. But I call your attention to the fact that in the comparative pictures of the boys in action, the one three-hundredth second with the little camera fitted with a compound shutter stops the motion better than the one three-hundredth with the big camera which had a focal plane shutter. This can only be accounted for in one of two ways: either the focal plane shutter was working slower than one three-hundredth or the compound shutter was working faster than that; for surely one three-hundredth is one three-hundredth, and will stop motion as well with one type of shutter as another, leaving out of consideration the distortion of moving objects given by the focal plane shutter, which distortion, by the way, is quite apparent in some of these pictures. I do not believe, however, that the focal plane shutter

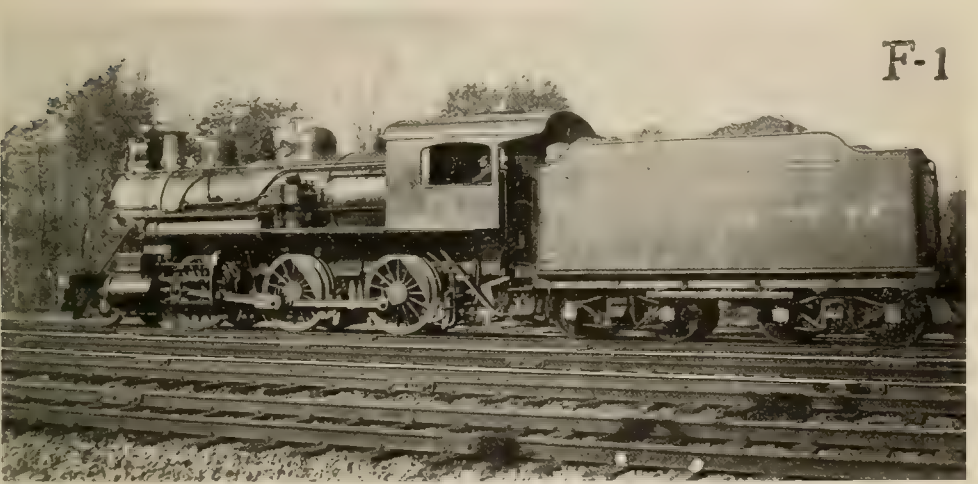


F: CONTACT PRINT—Seven-inch lens, f-6.8, 1/1,000 second, Multi-Speed shutter.

was working slow, for it had not been used a dozen times before that since being tested on a Goerz tester. Perhaps the explanation lies, as suggested by a photographic friend, in the fact that a small size of the compound shutter does its work quicker with the same speed of the moving parts than does a larger one, one in which the blades are larger and must cover more space in their travel.

Is it any wonder, considering all these surpassing qualities possessed by the short-focus anastigmat, that the modern miniature camera is a camera of marvelous capabilities?

Important though the lens may be, and is, it is not "all in the lens." The



F-1: ENLARGEMENT—Two and one-half inch lens, f-6.8, 1/300 second, Compound shutter.

The train was traveling about twenty-five miles an hour and both shutters seem to have stopped it equally well. The Multi-Speed shutter shows good illumination at the higher speed and this high speed may not have been necessary with it. The smaller lens shows the superiority in depth of field. I had focused both lenses for the near track, but when the train came along on the further track I decided to snap it anyway. It made no difference to the little lens, which had sufficient depth of focus to compass the situation; but the larger one, being focused for the near track, gave the front of the locomotive and the trees still farther away slightly out of focus.

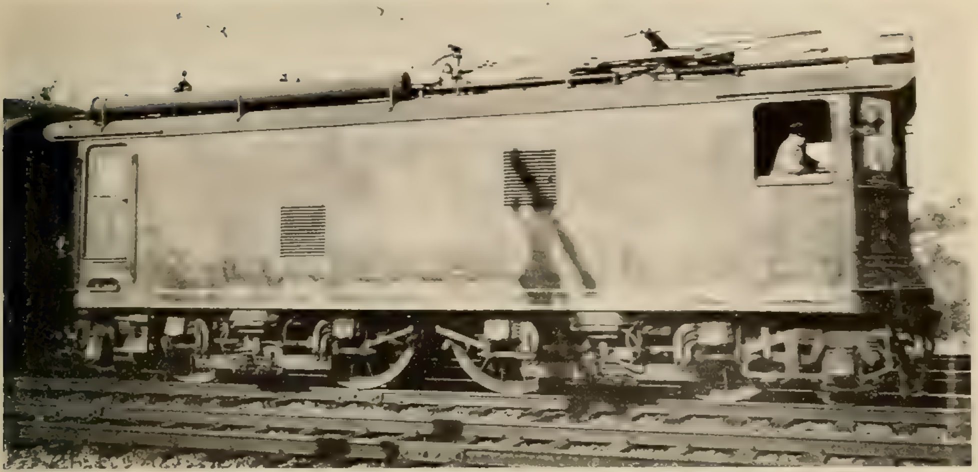
high-speed of the anastigmat would not be available if it were not fitted with a shutter capable of quick action and accurate adjustment. Neither can a lens be used with as large a relative opening as f-4.5 or even f-6.8 without some means of focusing. Even the lens of very short focus needs to be adjusted for taking pictures of objects at different distances from the camera. "Fixed focus" will not do. And all these adjustments demand a camera that is well made, positive and accurate in its working.

Not all the little cameras on the market conform to the foregoing requirements. And so the idea persists in the minds of many photographers that the "vest pocket" camera is a toy. Some time ago, while gathering material for an article on little cameras, I got in touch with one of the staff photographers of a large press association. I asked him if it were true, as I had heard, that the tendency was toward the use of smaller cameras for press photography. He admitted that such was the case, and said that most of the newspaper work was done now with 4x6 scale-focusing cameras, rather than with the bulky apparatus of reflecting type. But he added that the vest pocket camera was a toy, and not capable for serious work. I asked this photographer if he had ever had experience with either of the two modern small cameras I had been using, and I showed him some of my results with these cameras. He had nothing more to say about their being "toys."

The modern miniature camera is far from being a toy. To my mind, it is the most efficient and capable type of camera yet produced, bar none. And it is so because it is small, therefore easily handled and inconspicuous; and because, being small, it uses a short-focus lens, various virtues of which I have already mentioned.

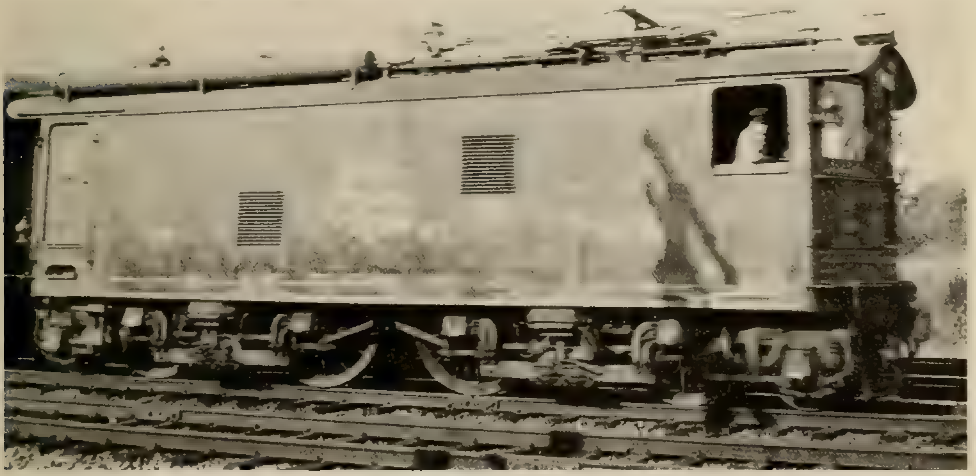
Whatever can be photographed with a large camera can be photographed with a small camera. Of course the latter produces a small negative, but an enlargement from this small negative is easily and quickly made, and it should compare favorably with a contact print from a large negative of the same subject. Portraits, groups, landscapes, interior and exterior architectural views, street scenes, flashlights, athletes in action, all come within the scope of the miniature camera. Many of these subjects can be negotiated more successfully with a little camera than with a big one, and the little camera can do many things that the big camera cannot touch at all, the only proviso being that the lens, shutter and other equipment of the little camera shall be equal in excellence to those of the large camera.

For instance, portraits can be taken at close range with a large lens opening, and therefore with short exposure, and both the nose and the ear of the subject will be in focus at the same time. In a group, not every figure need be exactly the same distance from the camera, if it is a little camera, to be in focus, even though a large lens opening be necessary for the sake of short exposure. There are any number of other things in the ordinary run of professional photography that can be done better by the little camera than by the large ones usually employed. I am not a professional, however, and I suppose most of those who will read this are not. Therefore, I will not dwell on that phase of the subject.



G: CONTACT PRINT—Seven-inch lens, f-6.8, 1/1,000 second, Multi-Speed shutter.

The particular way in which the little camera appeals to me is in its ability to take the common, every-day, intimate, home pictures, dear to the heart of the amateur, and do it better than the camera he may have used in the past. You can step out in the kitchen with your little camera in hand, and snap mother as she rolls out the pie crust, by the ordinary light from the window. The extraordinary depth of focus of the little lens enables you to guess the distance near enough, even with an aperture as large as f-4.5. Or if it is at night, you may get little brother at his "home-work," by flashlight. It is not necessary to use a tripod and make much preparation. Just hold the camera in one hand and the flash-lamp in the other. "Puff!"—it is all done. Only a pinch of powder is



G-1: ENLARGEMENT—Two and one-half inch lens, f-6.8, 1/300 second, Compound shutter.

This train was traveling about fifty miles an hour; and, from the high speed of the train and the sharpness of the Multi-Speed negative, that shutter was working fully as fast as one one-thousandth second. If that be true, I think the reader will agree with me, on comparing the two pictures, that the little Compound must have given an exposure equal to at least half that speed, or one five-hundredth second. The makers should revise the markings on these smaller shutters.

necessary, owing to the superlative light-passing ability of the short-focus lens, and it will not be necessary to open all the windows to clear out the smoke. Or perhaps you would like to get the children at play. Go ahead; they need not be in the full glare of the sun, as would be the case if a less efficient camera were used. You can make snaps in the shade, even quite deep shade, just as well as in the sun. And steady-handed people can do wonderful things with slow snaps indoors. You are almost independent of light conditions. It means that your photographic activities need not be halted by the dark days and long nights of winter. How many times have you encountered a likely picture subject when your camera was at home? If you had a miniature camera, you could get it, for the little instrument is so small and light that you can carry it with you all the time without inconvenience, as you would a watch. A little camera in one pocket and a flash-lamp in the other give you the ability actually to photograph anything, at any time, anywhere.

You think, perhaps, that I am somewhat a fanatic on this subject? Yes, I am very enthusiastic about little cameras. The more I work with them, the more fully am I persuaded that sooner or later, as their capabilities are recognized, they are bound to drive out of use the majority of large cameras and long-focus lenses that are being used today. And they will do it by sheer merit and effectiveness, because they can do the work better.

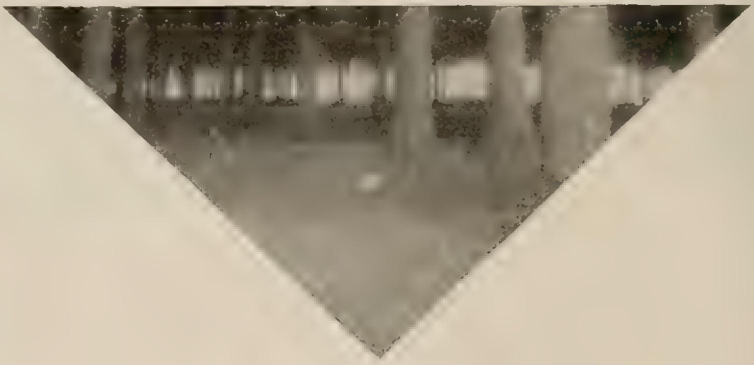
"So David prevailed over the Philistine."

The Means Subordinate

A picture is finished when all traces of the means used to bring about the end have disappeared.

To say for a picture—as often is said in its praise—that it shows great and earnest labor, is to say that it is incomplete and unfit for view.

Industry in Art is a necessity—not a virtue—and any evidence of the same, in the production, is a blemish—not a quality; a proof not of achievement, but of absolute insufficiency, for work alone will efface the footsteps of work.—James A. M'Neill Whistler.



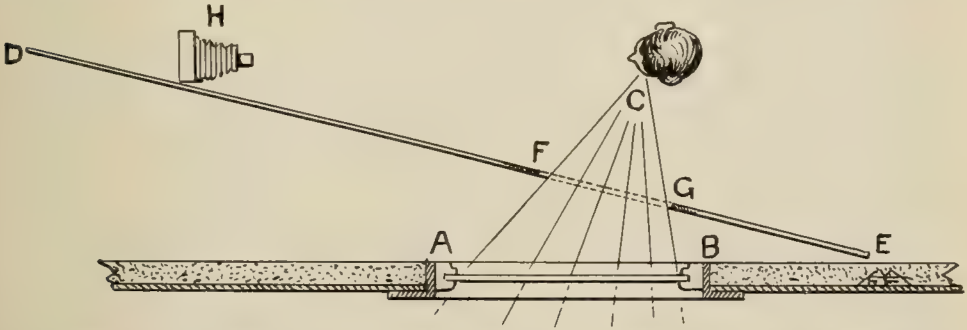
A Softening Device for Home Window Lighting

By F. Morris Steadman

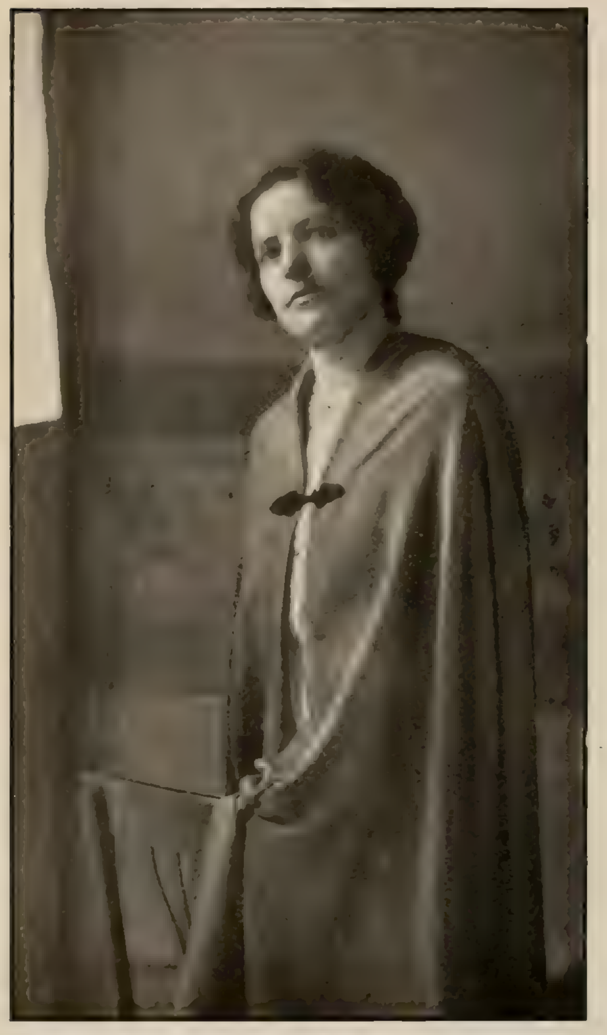
With Illustrations by the Author

I must state here at the beginning of this article that I have never found the device to be described a necessity in my own home portrait work with window lighting. At the same time, one not practiced in the use of an ordinary window as a source of light for portraiture will be able to secure softer gradation and better concentration of the high lights by the use of this cloth screen or curtain.

In an ordinary room the darkest part of the walls is that near the window, provided, of course, that only one window is being utilized for the lighting, the others, if any, being darkened. It is clear that no direct light can strike that part of the wall at the sides of the window, and they therefore reflect no light. The object of this cloth is to substitute its area for this area of dark wall without intercepting in the least the direct light which shines on the sitter's head from the window. Quite thin, white cloth is used. It should be four, or better, five feet square, and it should be hung as shown in the two first illustrations. One end is tacked to the window casing, or the wall a little back of it, while the other passes the opposite casing, but at a distance of at least a foot therefrom; this last end being held in place by means of a string attached to a nail driven in the side wall in such a position as to bring the curtain in the right place. The first illustration was taken from the inside and the second from the outside of the room, showing the screen as used for the portraits herewith.



In the former article in which I originally mentioned this device, I said that its use would soften the gradation and would not increase the exposure. This condition is secured by the central opening cut in the cloth curtain, plainly shown in the two illustrations. This opening should be just large enough to allow the sitter, when posed as near the curtain as permissible without including the cloth in the picture, to see the whole area of the window by turning the head in that direction. This assures the full strength of the direct window light falling on the face and clearly does not lengthen the exposure. It might be explained, referring to the cloth about this opening, that it begins where the window leaves off and takes the place of what, without it, would be the darkest part of the wall. It is this substitution of the lighted cloth for the dark wall area that softens the shadows on the face. The size of the opening in the cloth is determined as in the floor-plan sketch herewith, A B being the window opening, C that point on the sitter's forehead nearest to the window, D and E the cloth curtain with the opening at F G where the edges come in line with the window casings and allow all the light to pass to that point on the forehead. The head of the sitter should come quite near to the cloth and the camera be placed at H or very close to the free end thereof, for ordinary front or three-quarter views. The lower edge of the opening should be on a level with the cheek or chin of the sitter and the upper edge just high enough to admit the full window light.

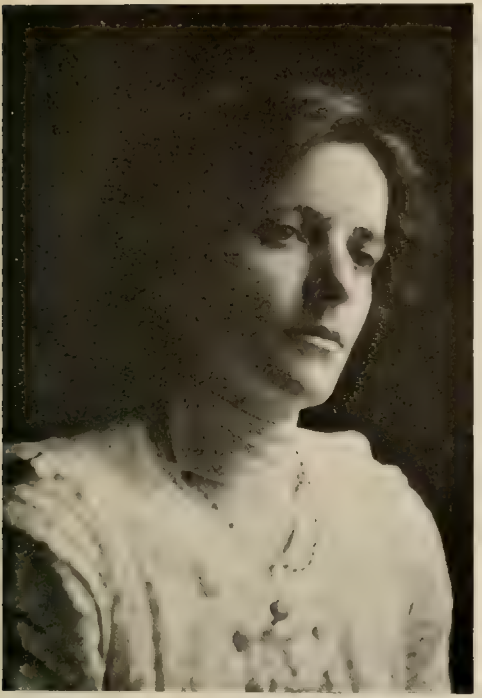


SHADOWS BROUGHT UP BY USE OF REFLECTORS

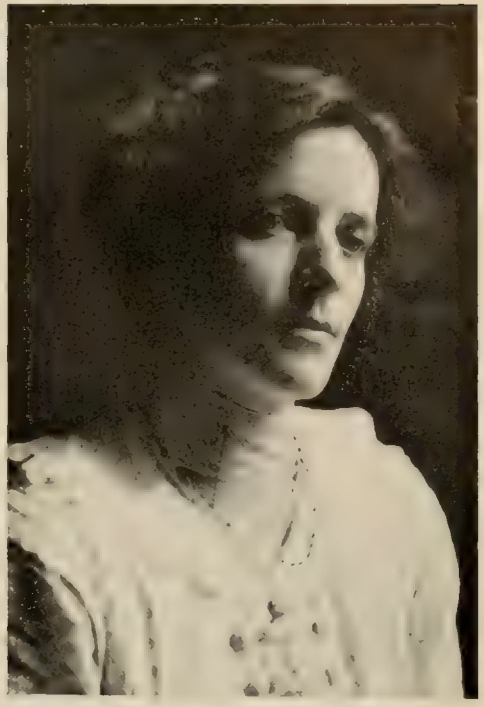
The first two portraits show the effects of exposures made with and without the cloth curtain for a three-quarter view, while the other two show its effect in making a line lighting. The shadows have intentionally been made quite deep by avoiding the use of a reflector. In practice, the ordinary side screen or reflector should be used on the shaded side of the face. This doorway, used in the making of these examples, is only an ordinary one that opens into a narrow patio or court, the walls of which cut off the skylight from the opening. Otherwise more decisive and clean-cut effects could have been shown.

In making a line lighting, the sitter is brought forward from the window

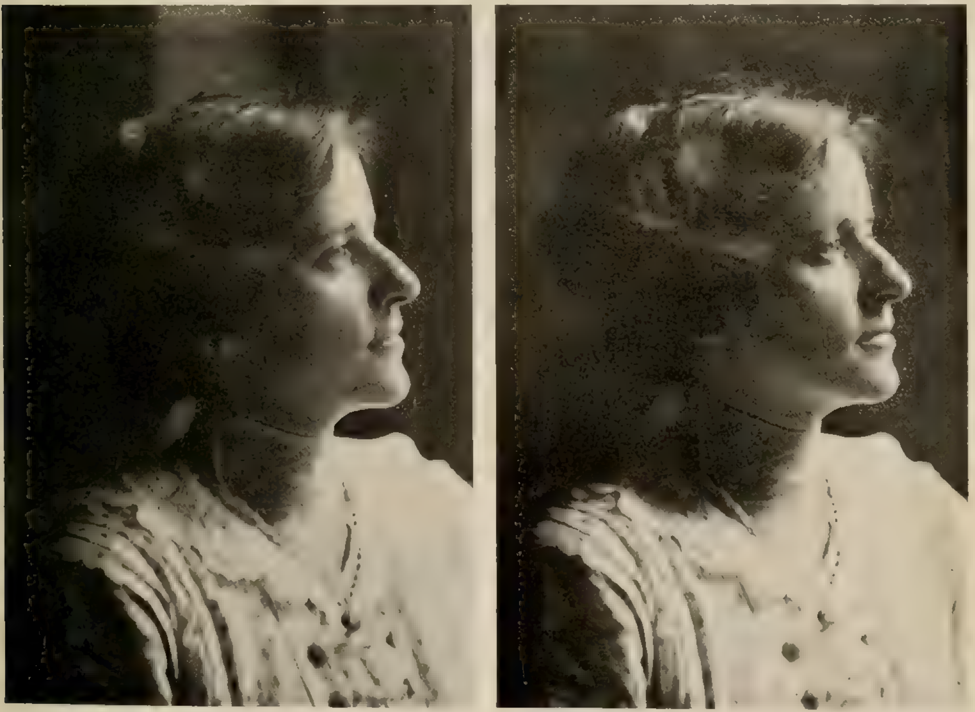
SOFTENING DEVICE FOR WINDOW LIGHTING



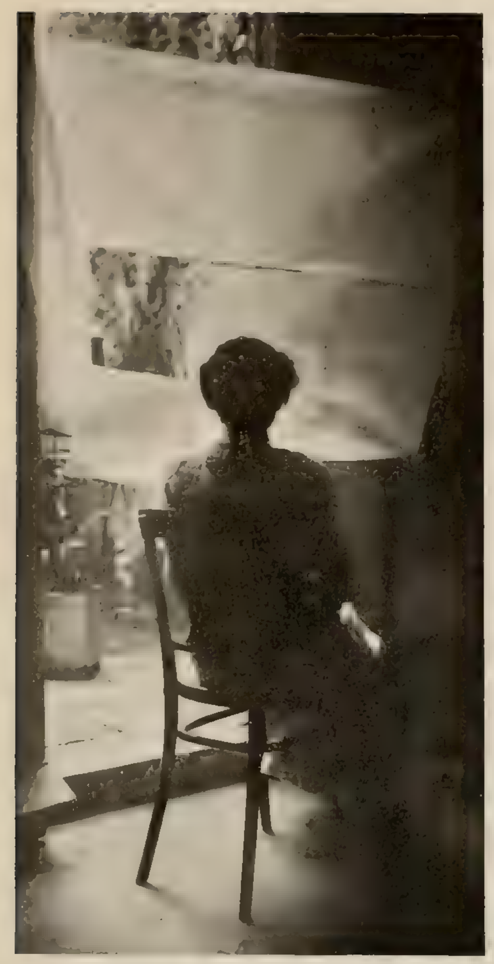
MADE WITH CURTAIN AS SHOWN



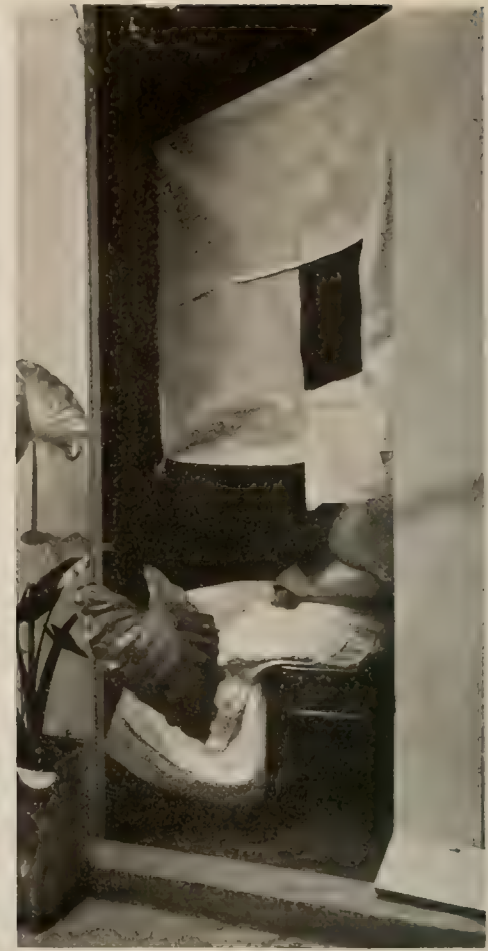
MADE WITHOUT CURTAIN



EFFORT AT LINE LIGHTING MADE WITH AND WITHOUT CURTAIN, NO REFLECTOR



CURTAIN—FROM WITHIN ROOM



CURTAIN—FROM WITHOUT DOORWAY

towards the camera and the latter of course moved back. The softening effect of the cloth curtain is then very noticeable. With a little increase in exposure, still greater concentration of light and diminishing of contrast could be secured by making the hole in the cloth still smaller. The last portrait is one taken with the cloth curtain, a corner of which is allowed to show, arranged as described, but the shadows have been brought up in tone by the use of a reflector, not shown, at the opposite side of the sitter.

I wish to state once more that I do not use this device in my own practice, since I do not find it necessary in securing any of the desired lightings of the face; but the theory of this cloth screen has been a matter of contemplation for some time. Mentioning it in a former article brought forth several inquiries, and I am grateful for the opportunity to make these examples and explain the matter for Camera Craft readers, some of whom may find it of assistance in their home portrait work.

He that understands not his employment, whatever else he knows, must be unfit for it; and the public suffers by his inexpertness.—William Penn.

An Emergency Enlarging Rig

By C. M. Whitney

Two years ago, while "up home" on my summer vacation, I had a rather sudden call to get out a number of 11x14 bromide enlargements from 5x7 negatives. While I had good dark-room facilities, I had nothing in the shape of an enlarging rig that I could use. My camera was an old-style, box-form, long-focus Premo, which did not lend itself to use as an enlarging adjunct, and the case was therefore one that had to be worked out "from the ground up."

Fortunately I had the use of a second-story room with one window having a clear view of the sky, so I decided to make this room my enlarging camera. With some pine strips, ⅞x1½ inches, I made a frame to fit snugly within the window casing on the inside, halving the strips together at the corners and fastening the joints with glue and screws. About waist high, as the frame stood in place in the window, I halved in another one and one-half inch strip across the frame, and twelve inches above this a similar strip was put in. Next I made, from three-eighth inch lumber, a box without ends, twelve inches square inside. While this box was made eight inches wide, two opposite sides were made of boards six and one-half inches wide so that a space of one and one-half inches remained open at one end of these two sides when the parts were nailed together. Across these spaces I nailed ⅜x¾-inch strips so that a three-quarter inch opening, three-quarters of an inch from the bottom edge, still remained in two opposite sides of the box.

These openings were left for the slide or negative holder, which I next made. A simple frame of three-quarter inch stuff, 12x15, with a 5x7 opening in the center, was halved together, and glued and screwed at the joints, care being taken to get it flat and true. Strips of quarter-inch stuff fastened with brads around the edges of the opening provided the rebate in which to set the negatives, and two small turn buttons, cut from sheet tin, served as clips to hold them in place against these strips. This frame was made a trifle large and then carefully planed down until it would slide easily, but without undue looseness, in the slots or openings left in the sides of the box. Small strips fastened inside the box with brads served as guide to insure this carrier sliding from one opening to the other across the end of the box.

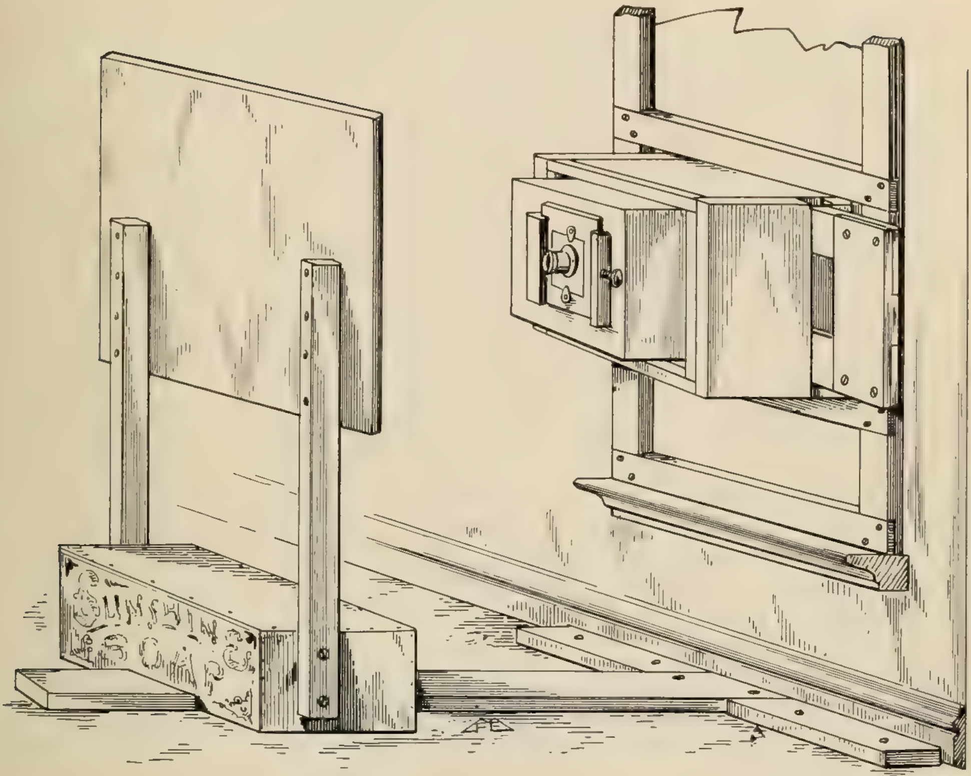
Of course it was necessary to be able to move the lens nearer to or farther from the negative, so the next move was to make another box of three-eighth inch stuff, 10x10 outside and seven inches long. One end of this box was open, but the other was closed with a board in the center of which was cut a hole about three inches in diameter. A rebated strip was placed on opposite sides of the hole and a lens board made to fit between. This lens board was mortised out in the center to take the lens board carrying the lens from my camera, two small wooden turn buttons holding the latter in place.

The first lens board was arranged to slide up and down between the rebated strips and could be held in any position by tightening up a screw that extended through the edge of one of these strips. This provided for up-and-down adjustment, while lateral movement could be had by sliding the negative frame from right to left or vice versa. Strips of three-eighth inch stuff were fitted around the edges of the first or larger box, leaving a 10x10 opening in the center through which the smaller or lens-carrying box could slide rather snugly. Around the outside at the open end of the smaller box were nailed strips that would just fill the space between it and the inside of the twelve-inch box. Putting the smaller box inside the larger from the back of the latter, it was possible to slide it in or out and thus vary the distance between lens and negative. This provided for different degrees of enlargement, the two telescoping or sliding boxes taking the place of the usual camera bellows.

When all fitting and adjustment was complete, the larger box was screwed to the two cross bars of the window frame with the openings or slots for the negative frame or carrier at the back. The frame was then covered on both sides with red building paper glued and tacked on, the paper on the front side being allowed to project over the edges of the frame about three inches all around, thus shutting out all stray light that might otherwise pass the edges of the frame. The two boxes were painted inside and out with a coat of lampblack in turpentine.

The next consideration, an easel or support for the bromide paper, was easily provided for. An empty soap box was placed bottom up, strips 2x⅞ were nailed vertically to opposite sides to form a support and a small drawing board was placed so that its center was at the same height above the floor as the lens when the window frame with its sliding box was in place in the window, and then nailed to the edges of these supporting strips.

The next problem was to provide some way to keep the surface of the drawing board easel always parallel to the negative while the apparatus was in use. As the room was carpeted and used daily for other purposes, it required some thought to devise a satisfactory arrangement. Finally, a strip of wood, ⅞x1½, seven feet long, was taken out, straight and true, and across one end another similar strip about three feet long was halved in and fastened with screws. This resulted in a sort of exaggerated letter T, special care being taken to have these two strips at right angles to each other. The window frame carrying its sliding boxes was placed in position in the window, a plumb line dropped from the center of the lens opening to the floor, and the big T tacked to the floor under the center of the lens board, its three-foot head or cross-piece being pressed tight against the baseboard of the room under the window, this insuring the placing of the seven-foot stem at right angles to the wall and to the negative and in line with the lens. This T-shaped guide was held in place by two small nails driven a quarter of an inch through the carpet into the floor; and, by marking the position of the head on the baseboard, it was easy to take up and replace this guide strip or track whenever occasion required. Square openings were made in the under edges of the front and back of the box forming the base or support of the easel, and as these openings were made of such size



as to fit the ⅞x1½ stem of the T, they allowed the box to slide along the strip as it lay on the floor. The face of the easel was thus always truly parallel to the negative. A weight on the box top served to keep it steady and to prevent a change of position while the bromide paper was being fastened to the drawing board, this last being smoothly covered with white paper on which the image was easily focused.

A block of light wood was bored out with a bit, making a hole of the same diameter as the lens barrel; over this opening was fastened a bit of orange glass, and a safety lens cap to be used while the bromide paper was being pinned in position, was provided.

When tried out, this rough and ready arrangement gave very satisfactory results and is still in use each summer. The dimensions as given are adapted to 5x7 plates and a lens of eight and one-half inches focus. A little calculation will enable one to make the alterations necessary for other sizes.

There is illimitable power in mental demand. It is the same law in the world of affairs as that one in the spiritual world enunciated so long ago: "As thy day, so shall thy strength be." This power of mental demand, like every other force in the universe, is subject to laws. The first one is that it can be enormously increased by consecutive, systematized effort to increase it.—HERBERT EDWARD LAW.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—THE EDITOR.

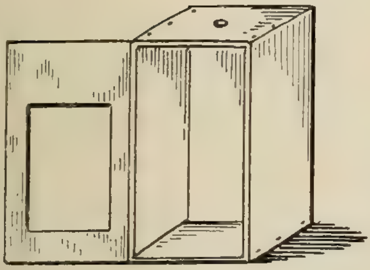
CHANGING FORMULA TO METRIC SYSTEM: To change photographic formulas, as ordinarily written in this country, to the more convenient metric system, first express the formulas in fluid ounces and avoirdupois ounces and decimals; and then, by writing cubic centimeters for fluid ounces, and grams for avoirdupois ounces less four per cent (accurately, 4.12 per cent), the formula will be given in metric system with amounts much smaller but of the same proportions. To change to the same amount, multiply all quantities by thirty (accurately, 28.57). One fluid ounce equals 29.57 cubic centimeters and one avoirdupois ounce equals 28.35 grams.—O. W. L., California.

CLEANING TRAYS: Add enough water to ordinary washing soda to make a thick paste and use this in scouring out developing and other trays. It is surprising how much dirt one can remove from a tray that is apparently clean, and this dirt, if not removed, is inclined to cause trouble that is not always traceable to the right source. My method is to rinse the tray and then add about a tablespoonful of the soda. The rinse water adhering to the tray after it is emptied will be enough to moisten the soda sufficiently to form a paste. Common salt can also be used, but I prefer the soda. Trays should, of course, be thoroughly rinsed after scouring as advised.—L. N. S., South Dakota.

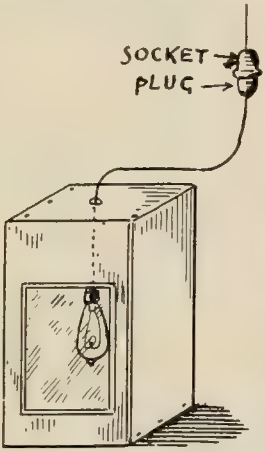
TWO EXPOSURES ON A PLATE: Having read, in the December CAMERA CRAFT, Mr. Blacar's method of taking two pictures on one plate, I believe that my way will beat his. I cut a piece of dark cardboard just one-half as wide as the opening in the back of my 5x7 camera, of such a length that I have to bend it just a little to put it in the back of the camera between where the plate holder is inserted and the front or bellows. I make the exposure on the other end of the plate, move the piece of cardboard to the other side, focus, and make another exposure on the opposite end, making two exposures on one plate. I have used this method for years, making two post cards on each 5x7 plate.—T. S. Kincaid, North Carolina.

EMBOSSING: Very often the amateur wishes to emboss the margins of a few of his prints, especially portraits printed within an oval cut-out, but is hampered by not having the equipment, offered in catalogues, that he supposes necessary. I have a very simple method of doing this work and one that gives excellent results. I take a thin piece of cardboard and cut it the size and shape the embossed portion is desired. The card or double-weight paper to be embossed is laid face downward on this cardboard form, and then a small, smooth stick, one like a ruler only it should not be more than a quarter of an inch wide, with a square end, is used to push the card or paper against the edge of the cardboard form all around. A very blunt-pointed screwdriver also answers admirably for this purpose. I simply hold the card or paper being embossed in place with my left hand and follow all around with this pushing motion against the edge of the form below, generally going around the second time to insure smooth, even work. Removing the card or paper after doing this shows a very effective panel, as one will find by giving the plan a few trials.—Eric Shuman, Missouri.

A HANDY ELECTRIC DARK-ROOM LAMP: More than one amateur has been nearly suffocated in his dark-room by the little, old, smoky kerosene lamp so universally sold for dark-room use. More especially unbearable does it become in the warm summer months, the particular time when more pictures are made. The first thing to have, and the most important, is electricity in the house. Procure an empty cigar box about five inches wide, five inches deep, and eight inches long. Next make an opening in the lid about 4x5 inches as shown, covering it with two thicknesses of ruby fabric obtainable at any photo supply house. To make a neat job of it, because you will want to show it to your friends after you have used it and found out what a convenience it is, cut the fabric an inch larger each way and line around the edges with some gummed tape about one-half inch wide. After this is finished, examine your box to see that it is light-proof; if not, line the corners, either inside or outside, with some of the gummed tape or use the black paper that comes around developing paper. Make a round hole in the top of the box, one about the size of ordinary insulated electric cord. Procure several feet of this cord, the quantity will depend upon the distance to the nearest socket; slip one end of the cord through the hole in the top of the box and connect it to the socket used inside the box to carry the light. At the other end of the cord attach a plug, obtainable where the cord is purchased; and, all connections being made, screw the plug into the



OPEN



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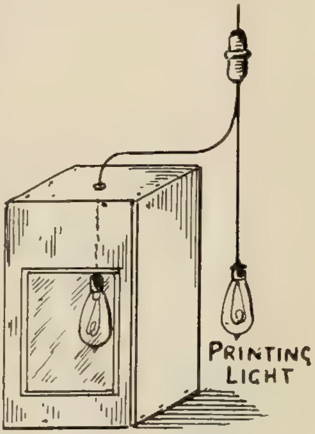


COMPLETE

nearest wall socket. If everything has been connected up properly, one will have a safe ruby light, providing the box has been made light-proof. The illustration herewith will make it all clear. Taking it for granted that the amateur prints by artificial light, he may have, with a little added work, a printing light also. He need only connect a second cord to the same plug and attach a socket and globe at the free end, as shown. After exposing the paper to this white light, one can turn it out without interfering with the ruby light which is used for developing the print. If my amateur friends will only try this simple lamp, they will be fully repaid for their labor.—H. L. Van Epps, Ohio.

GRAY-TINTED BORDERS ON POST CARDS: I first take a piece of opaque paper, size 5x7, and cut therein an opening one-half an inch smaller all around than the outline of a post card which has been traced thereon. Then I take small strips of spoiled post card and paste them on the paper at two corners along this outline to serve as guides in placing the card on the mask, as shown by A, A, A, A, in Figure I. This mask is glued onto a 5x7 glass, completing the mask through which to print the picture. Taking another 5x7 piece of opaque paper, I cut an opening one-eighth of an inch smaller all around than the outline of the card, again paste on small strips for guides as explained above, and glue to a second 5x7 glass. I then cut a piece of opaque paper one-eighth of an inch larger all around than the opening in the other mask and this I glue on the second glass, seeing that it is exactly centered within the opening, as shown by Figure II. Care should be taken to have measurements exact and all cuts made straight, with sharp, clear corners. This completes the masks;

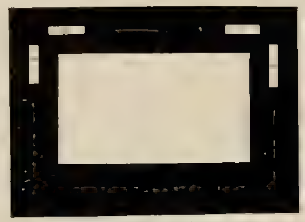


Fig. 1

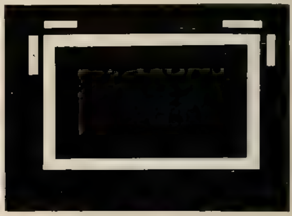
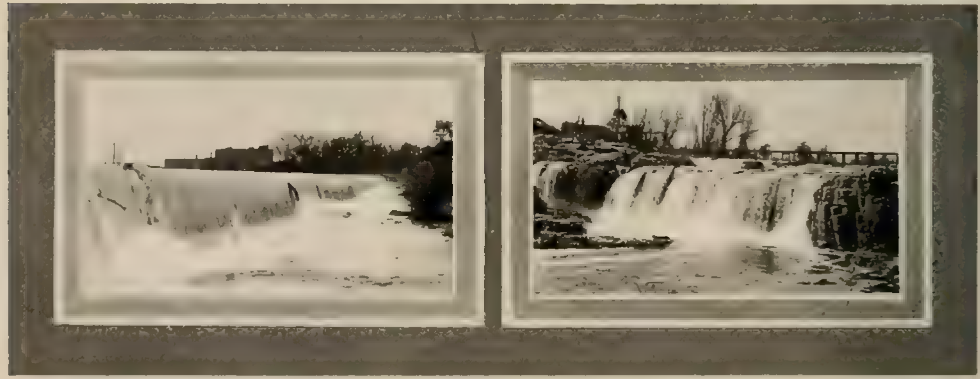


Fig. 2



and, by the simple process of double printing, I obtain the effect shown in the cards reproduced herewith. Printing the border through clear glass, the exposure will necessarily be brief, or black instead of gray borders will result. Many variations may be made in size, shape, and the depth of the border, but the principle remains the same.—L. N. Searles, South Dakota.

CAMERA CRAFT

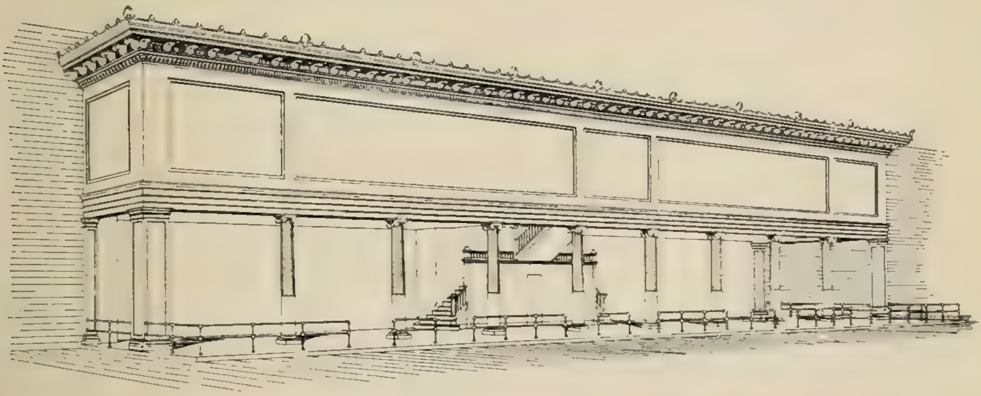
A PHOTOGRAPHIC MONTHLY

Vol. XXI **San Francisco, California, April, 1914** **No. 4**

Photography at the Panama Pacific

While the Exposition gates do not open until February twentieth, 1915, intending exhibitors must bear in mind that the allotment of space will be made many months in advance of that date. For that reason we would urge all those desirous of taking advantage of the opportunity presented, to at once write for Application Blank and full particulars, which will be gladly sent upon request to Theodore Hardee, Chief of the Department of Liberal Arts, Exposition Building, San Francisco.

Letters addressed to photographers whose names and addresses have been furnished to the Department of Liberal Arts are now being sent out, together with Special Regulations governing photographic exhibits, Official Classification and a sketch of the large special booth for this group in the Palace of Liberal Arts. It is, of course, quite natural that many photographers whom the Department of Liberal Arts would like to reach are not represented on their lists, and no hesitancy should be shown by any worker in asking for an application blank and the accompanying information. The letter mentioned above urges prompt action in this respect and this may reach the eyes of many who were not represented on the list available.



We are reproducing herewith a sketch of the booth proposed to be erected to house the photographic group, occupying Block 14 in the Liberal Arts Building. This one complete booth is an innovation in this, that it was decided upon as a means of securing a dignified and harmonious whole more in keeping with the artistic nature of photography than an aggregation of small and unimpressive booths, such as would otherwise characterize the Photographic Exhibit. Manufacturers and others, as well as exhibitors of commercial and like photographic productions, will be charged two dollars per square foot to cover the cost of this booth, such charge being distinctly understood as simply the avoidance of the necessity of constructing individual and more expensive small booths in favor of a pro rata payment upon the cost of the larger and more desirable one. It will be seen that this does not in the least invalidate the stated policy of the Exposition of *no charge for exhibit space;* but, rather, is a recognition of the artistic requirements of the photographic group that entails upon the Department of Liberal Arts the performance of additional work. Further, the erection of this large booth permits of the acceptance of exhibits in Class 124, Pictorial Photography, free from the requirement as to the erection of necessary booths by the exhibitors, exhibits in this class being given all or any necessary portion of the upper or mezzanine floor of the booth as shown.

This liberal action on the part of the Department of Liberal Arts will, we believe, have the endorsement of the entire photographic interest of this country; and, we trust, result in a display of appreciation in the form of tendered exhibits that will guarantee the most comprehensive display possible at this stage in the development, along both artistic and practical lines, of our beloved art-science, photography.

An Old and Honored Member Gone

In the death of S. N. Purnell at his home in this city on March fifteenth, the California Camera Club lost one of its oldest and most highly esteemed members, one who had served the Club loyally and well in many important capacities. Always ready to put forth his best efforts, efforts both earnest and effective, in behalf of the Club, he earned for himself a measure of appreciation and esteem that was bestowed upon but few others. As Librarian, Corresponding Secretary, and as chairman of various committees, he served the Club with a degree of tact and efficiency that was noteworthy, particularly as chairman of the Demonstration Committee. His last work for the Club was the production of its Second Annual publication, which, as our readers know, took the form of our February and March issues of this year, Mr. Purnell, as Editor-in-Chief, giving the work his closest attention.

A Joint Convention

The next convention held by the Photographers' Association of Colorado and the Inter-Mountain Photographers' Association will be a joint one, the two Associations combining for a convention to be held in Denver during the month of October next. The exact date has not yet been decided upon, but will be announced in our next following issue. Available information concerning this convention can be obtained by addressing LeRoy Kellogg, Secretary-Treasurer, 58 Barth Block, Denver, Colorado.

Mr. Mueller Goes East

The popular T. C. or "Teddy" Mueller goes East, before this is published, to take up with his brother, Robert E., the government work of photographing the fleets of the world on their first passage through the Panama Canal. His host of friends here on the Coast are sorry to learn of his departure, but their best wishes go with him in his resumption of active photographic work.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

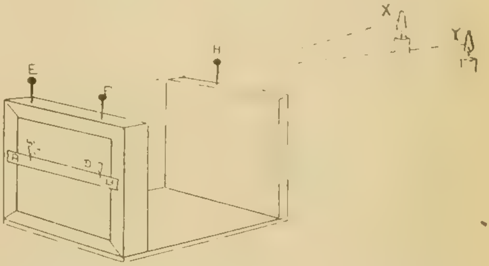
How to Measure the Focus of a Lens

How can I measure the "focus" of my lens? is a question which, sooner or later, every beginner asks himself, or some photographic friend, or editor. The "In Reply" column of this journal frequently contains reference to the subject, showing how often the question crops up.

By "focus" we here use the usual abbreviation for "focal length," or "equivalent focal length for parallel rays." Suppose we focus a distant object, say a row of houses one hundred yards or more away, and that the length of the image on the ground glass is exactly three inches from side to side. Suppose, now, we had a second thin lens, so thin that its thickness was negligible, and also suppose that if we replaced the comparatively bulky camera lens, which may be an inch or more from front to back, by this thin, or no-thickness, lens; and that it gave us a sharp image on the ground glass of exactly the same size, i. e., three inches from side to side, as the thick lens; we should call this second thin lens the "equivalent lens," and the distance from the center of the ground glass to the center of the lens would be the equivalent to the focal length of the first lens. We supposed the object one hundred yards away. Rays falling on the lens from this distance would be nearly parallel; if the object were further away, they would be still nearer being parallel. So by taking objects at any distance we please we can get any degree of accuracy we like. Thus we get the meaning of "equivalent focal length for parallel, or really approximately parallel, rays."

Now, instead of using an equivalent thin lens we can use three pins. Our needs are a tape measure or foot rule, three pins, and a couple of lighted candles, if the experiment is to be done at night, but a couple of narrow strips of paper cut off the edges of a newspaper will serve for daylight.

We select the longest room available so as to get the greatest distance we can between the camera and test objects, e. g., candles. Suppose we place the two candles at the ends of the mantelpiece, say five feet apart. With the tape measure the exact midway point between the candles. We now place our camera as far away as possible and opposite the center point, so that the lens is at equal distance from the two candles. We now focus the two candle flames as sharp as we can, using the largest stop of the lens. If the camera is properly placed, these two images will fall at points equally distant from the center of the ground glass. We now take a straight strip of paper, lay it on the ground glass, and with a pin-point or pencil mark the distance apart of the candle flames. Suppose this is three inches, by way of example. In the rough sketch, we see this strip of paper, A B , laid on the ground glass, and the distance, C D, marked between the candle flame images.



Now, with our tape measure we find the center, G, of the top of the back of the camera. Then to the right and left of this point we stick in two fine pins or needles, E and F, equidistant from G, so that the length, E F, equals the length C D. Hence the use of the paper strip, A B.

In a similar manner we find the central point, H, of the top of the camera front. The camera bellows, etc., are omitted, so as to make the diagram simpler. We insert our third pin or needle at H. Now, placing an eye behind the pin, E, we look towards the candle, Y, and rack the camera front in or out until the pin, H, is in line with E and Y.

If our adjustments have been made sufficiently carefully, we ought to find F, H, and X all in line at the same time. Having got F, H, Y, and also F, H, X, into line, we now measure the distance of the pin, H, from G, which latter is supposed to be in the same plane as the ground glass, and this gives us the equivalent focal length of the lens. This measurement will not be very accurate if made in a room, because we cannot get far enough away from the test objects. For instance, suppose, as before, the candle flames are five feet apart and their images three inches apart, i. e., a proportion of twenty to one, then the error will be one-twentieth of the focal length. Thus, in the case of a five-inch lens, it will be one-fourth inch, i. e., too long. But suppose now that we can have the use of an upper room, commanding distant objects, say two chimneys, which we will assume to be one hundred yards apart. Proceeding as above described, i. e., employing the two chimneys in place of the candle flames, comparing one hundred yards with three inches, we get twelve hundred to one. Thus, in the case of, let us say, a six-inch focus lens, our error would be only six twelve-hundredths inch, or one two-hundredth inch, and so quite negligible. Thus we see the advantage of getting as great a distance as we can between the camera lens and the test objects.

But why go to all this bother when one can just focus the lens on any distant object and then measure the distance from the lens to the focusing screen? That sounds delightfully easy if one only knew what point in the lens to make the measurements from. True, we can take the stop as the place to measure from as being near enough. Sometimes it is and sometimes it is not. Then, again, it is not always possible to get at the stop at all easily, and the camera may not have a focusing screen.—Lawrence C. Northgate in *Amateur Photographer.*

Green Tones on Bromide Prints

A method of toning bromide or gaslight prints to a good green color is one for which many amateur photographers would doubtless find a use. Green is very suitable for many subjects; seascapes and moonlight effects are at once suggested as appropriate, but many landscapes also look quite as well in green as they do in black, or in the popular sepia. There are more or less roundabout methods which involve the use of salts of vanadium; but as a general rule photographers who want green pictures employ the carbon or ozobrome processes.

The method which is described below was introduced a good many years ago by the Rotary Photographic Company, and does not seem to be as well known as it deserves. It is applicable to any make of bromide or gaslight paper; the bromide papers usually giving the best results. As in the case of sepia toning, there will be found to be a distinct difference between the tones obtainable on bromide and on gaslight papers respectively.

There is one rule as to toning prints which applies to this process as forcibly as it does to any. It is useless to attempt to tone a poor print into a good one. The print must be a first-class black and white print to start with.

It is important also that the print that is to be toned should have been thoroughly fixed, and still more important that it should be thoroughly washed. It is not sufficient merely to give it a soaking for a long time in water; it should have a number of changes in fairly quick succession, each change being as complete as possible. It can then be dried, and at any subsequent time is ready for toning.

The baths which this process requires are two in number. The first must either be of "soft" water, or else distilled or boiled water, as, if it is of the usual hard character, lead sulphate and lead carbonate, which are insoluble salts, will be left in the paper and stains will ensue.

Lead nitrate	105 grains
Potassium ferricyanide...	70 grains
Aluminium nitrate	70 grains
Nitric acid	7 minims
Water (see above) to....	10 ounces

The bath is a bleaching solution, and the dry prints being placed in it soon change, the picture almost entirely disappearing, nothing but a feeble yellowish white image remaining.

The action of this solution should be allowed to go on until there is no doubt about it being quite complete, and the prints are then ready for washing.

The washing must not be carried out with plain water, or insoluble lead salts would be formed and remain in the prints. Very dilute nitric acid must be used, at any rate for the first three or four washings which the print receives. One dram of nitric acid to a couple of quarts of water will be found to be quite sufficient for the purpose.

In each bath of this the prints must remain for three or four minutes, and they should then be well drained before transferring them to the next. The nitric acid baths may be followed up by washing in plain water, until the whites of the prints are perfectly white. They are then ready to be toned.

For this purpose, they are immersed in a bath of the following composition, in which it will be found that they speedily darken to a pleasant green color:

Ammonia iron alum	48 grains
Potassium bichromate	24 grains
Potassium bromide	24 grains
Water	10 ounces

The operation is complete when the action of the solution appears to cease. The prints are given two or three changes of very dilute hydrochloric acid (one dram to the quart of water), the final washing being done in plain water.—"Craven" in *Photography*.

Further Notes on the Paget Color Plate

Since writing my last notes, I have, thanks to the courtesy of the makers, received ample material for further experiments. The Paget Company take exception to my statement that the shifting of the colors when the plate is viewed at other than right angles to the visual plane is due to parallax, stating that in their non-duplicating plate no such effect is present, and that the cause is lack of optical contact between plate and viewing screen. I can only answer that when optical contact is secured by the interposition of cedar oil, the refractive index of which is such that a homogenous system results, the color shift is by no means abolished, although it is greatly reduced; nor is it easy to see how a ray of light traveling obliquely between variously colored particles in such close contact can produce any other effect than that actually observed. So far as the average worker is concerned, the explanation is immaterial; it does not interfere with the value of the picture except when several try to look at it simultaneously from different angles, and this only when hand-viewed. On the lantern screen, no color shift is present when registration is correct. I wish here to remark that complaints of untrue color rendering are mostly due to imperfect registration. An approximate registration is easily attained and many are satisfied with this, but absolute superposition of the reduced silver, so that it not only lies over its proper color elements but exactly covers them, is not so simple. The individual color squares are one four-hundredth of an inch in area; a shift of one-fourth of this amount will degrade the image by the passage of light from the next and differently colored square. I have examined plates under the microscope and, as I expected, when the color is correctly rendered, the deposit exactly coincides with the color elements. When the color is false, there is overlap. Mr. McIntosh, as reported last month, has devised a simple registration apparatus; and I believe the Paget Company would assure the success of their plate by putting such an apparatus on the market at a reasonable price. The question of reasonable price is one that will have no little bearing on the use of the plate. The American price of the Paget Panchromatic plates, one dollar and ten cents a dozen for 3¼x4 plates, is greatly in excess of the Wratten, Seed, and Cramer brands. I have experimented with these latter to ascertain whether they could not be used in place of the Paget and have obtained good results with all of them, the Cramer Spectrum plate being particularly satisfactory, giving me perfect rendering of flowers. I note that the last issue of the Paget instructions gives the Wynne speed of the plate as 18, whereas they originally listed it at 24. I find the old number more correct for California.

The worker with the Paget plate will sooner or later realize the importance of small things; for example, the gelatine at the edges of all plates is easily frayed in the drying rack. The slight inequalities so produced are of no consequence in ordinary printing, but in this case the smallest roughness will make a difference in the correct reproduction of the minute dots composing the image or interfere with the exact superimposition of the color screen. If the edges are frayed, rub them down. I have an idea that a rub up with the Globe reducer might be a useful routine procedure.

Lastly, I would again draw attention to the excellent results to be obtained by using these color negatives for making enlargements. Enlargements from these negatives show practically nothing of the color squares and have a richness of gradation so good that I feel greatly inclined to make the bulk of my future exposures on these plates, quite irrespective of whether I intend to make color copies or not.—H. D'Arcy Power.

Micro-Radiography

X rays are commonly supposed to have no uses whatever outside medicine; but the micro radiographic exhibit for which M. Pierre Goby received a medal at the last annual exhibition of the Royal Photographic Society proved that they may have a variety of uses in natural science. With the X-ray plate the examination of the smallest foraminifera and diatoms may be facilitated; in conchology the different phases of growth and development of the shell, and in embryology the differentiation of the tissues are to be studied; and the method has obvious applications in botany and comparative anatomy, the smallest organisms yielding up the secrets of their intimate structure. M. Goby has invented an elaborate instrument for obtaining Röntgen negatives of microscopic objects; but the essential thing is the placing of a small, fine-grained photographic plate with its film immediately in contact with the object to be examined, without the intervention even of the usual black paper envelope. The resulting micro-radiographs will bear ordinary photographic enlargement up to twenty or thirty diameters. Quite a small X-ray apparatus, giving very soft rays only, is necessary, and the time of exposure, in order to obtain a good radiograph, varies from thirty seconds up to five minutes.—*Amateur Photographer.*

Some Notes on Photo-Micrography

Dr. Duncan J. Reid's recent paper on "The Photography of Microscopic Objects for Beginners," read at the meeting of the Royal Photographic Society, contained many valuable hints for those without much experience of this kind of work. Two in particular are worth further comment, the first being concerned with the matter of illumination of the object. In the comparatively simple case of using transmitted light with low magnification, the lecturer described a method of adjustment which, when analyzed, will be found to correspond almost exactly with the method adopted in the case of the ordinary projecting or enlarging lantern. If it be realized that the principle involved is the same in any of these cases, the adjustment of the light with the microscope becomes a simple matter to any one accustomed to the lantern. The second useful hint concerned the use of a camera with ordinary lens as an adjunct to the microscope. Sharp focus and satisfactory illumination are first obtained visually in the microscope, the observer, if short-sighted, using distance glasses for focusing purposes, so as to insure parallelism of the light pencils emerging from the eye-piece. A camera with lens focused on infinity is then placed against the eye-piece, and a sharply defined image is found on the focusing screen. It will readily be seen that with this arrangement the camera simply takes the place of the eye, and acts similarly to the eye, the ground glass performing the functions of the retina. This sounds rather like a clumsy expedient, but as a matter of fact it is a highly efficient one, and Dr. Reid showed comparative results which certainly indicated that this method yielded photographs superior if anything to those produced by the usual method. A camera with a lens of ten inches focal length is desirable, as this gives results on practically the same scale as the visual image seen in the microscope. Slightly shorter or longer focal lengths may, however, be employed without any material disadvantage.—*British Journal of Photography.*

Leveling Apparatus

A simple method is to use a flat board with three large size screw-eyes fitted in it, the eyes being above the board and the points passing right through to the underside. With a thin board the ordinary large screw-eye made with a screw for wood is sufficient, but for thick wood we can use the long screw-eyes made for straining wire netting. These may be obtained up to several inches in length, and any of the types of screw-eye can be bought at an ironmonger's for a few pence. The table may be a drawing board with an eye in each of two adjacent corners and one in the middle of the opposite side, but such an arrangement supplies two unsupported corners that may sometimes serve as traps and cause an upset. It is, therefore, best to cut the board to a triangular shape and put a screw at each corner. If a square shape is necessary, four screws can be used, one at each corner, and this arrangement is just as convenient for leveling as the other, if used properly. First see that all four screws touch the bench top so that the table is firm, then adjust the level by turning two screws at the same time, and to the same extent, one with each hand, remembering that if they are adjacent screws both must be turned in the same direction, while if they are opposite screws, they must be turned in opposite directions.—*British Journal of Photography.*

Opalines: Prints Mounted in Optical Contact with Glass

Opalines are prints on paper which are subsequently mounted in optical contact with glass, the picture being seen through the glass. In the days of albumenized paper they were very popular, but latterly they are not so often made. Yet an opaline is one of the finest ways of showing the detail in a fine photograph.

It is possible to make them on any ordinary printing-out paper or self-toning paper by merely squeegeeing the print down upon the carefully cleaned glass, but it is much better to use a solution of gelatine as an adhesive, as this does away with all risk of air bells and of subsequent peeling.

Any large photographic dealer's establishment stocks beveled glass plates in various sizes suitable for opalines, and these, the prints, and some ordinary cooking gelatine are all the materials required for the work.

A quarter of an ounce of any white gelatine is soaked in five ounces of cold water until quite soft, and it is then melted by warming the water. It must be strained through two folds of cambric—an old handkerchief answers very well—into a warmed dish. Both handkerchief and dish may be warmed with hot water before use. The glass should be laid on the bottom of the dish, back upwards.

The best photographs to be mounted up as opalines are rich, well-toned printing-out paper prints; but bromide or gaslight prints toned to a sepia color by one of the usual processes will do very well. A white margin helps the effect. The prints must be on glossy paper, and, except in the case of prints that have been toned in hot hypo-alum, they must be given a bath of formalin one part, water nine parts, when they come from the last washing water, and then must be dried.

To mount the print, it must be placed, dry, in the warm gelatine solution until quite limp, and then turned over and adjusted in position on the glass. The glass is withdrawn, and the face is examined to make sure there are no air bells. The print is then very lightly squeegeed to extract the superfluous gelatine solution, and it is put on one side to get dry slowly. When quite dry, the glass slide is carefully cleaned of any gelatine that may be on it, and the finished opaline is mounted up in one of the special backs made for it on a plush block.—G. N. C. in *Photography.*

Leveling Copying Apparatus

It is not infrequently necessary to set up a more or less temporary apparatus for copying purposes, and in such a case there is often a difficulty in getting plate and copy parallel to each other and at right angles with the baseboard or lens axis. The usual tendency is to test matters with measures and set squares when arranging the various parts of the apparatus, but a far quicker and more workmanlike method is to use a spirit-level and plumb-line. For this purpose it is necessary to have some sort of base that can be leveled readily, and for a long time past one of the most useful pieces of apparatus that we possess has proved to be a long wooden base with a slot right down the center for the admission of camera screws and supports at each end fitted with leveling screws. These screws are the long screw-eye strainers mentioned in another paragraph. They work simply in holes in the wood, no metal screw nuts being required. When wanted, this base is set up and leveled with a spirit-level. The camera, also the easel, or whatever kind of support is required for the object, is then put in position, and with a plumb-line, consisting of a lead bob at the end of a string, everything is adjusted exactly vertical, and therefore parallel. When everything is fixed, the whole apparatus can be lifted up and used wherever is most convenient, and of course it can be tipped to any angle to receive light from the sky or any other source. We may add that the same apparatus can be used to test the true parallelism of the front and back of a camera. The stand is leveled, and the camera fixed upon it. The back and front, and then both, tested with the plumb-line at various extensions, which test sometimes reveals errors in adjustment that otherwise might have escaped detection. This is especially so with lightly built cameras when used at long extension, for the pull of the bellows then has full play, and often upsets accuracy altogether.—*British Journal of Photography.*

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Photographing the Mountains

At least a portion of our readers will have an opportunity, and of course that means an effort, to secure pictures of mountains and mountainous views. And those who have tried to portray some suggestion of the immensity of such subjects know too well how persistently the camera disappoints one with its tendency to dwarf these rather inspiring objects. Much of this difficulty can be overcome by the simple expedient of selecting a good and suitable foreground. For example, we have seen numerous photographs of Mount Hood, but the only one that really gave a good idea of the immensity of that noble giant was one that was taken with the bed of a dry creek and some scrubby growth of trees in the immediate foreground, a little to one side, of course. Covering up this valuable portion of the composition at once demonstrated that its value was great, as the mountain at once lost much of its apparent size. This clump of small trees with the small stones of the creek bed was clearly in and of the foreground of the picture; and the mountain behind, having the natural atmosphere intervening and plainly indicated by reason of correct exposure, assumed its proper proportions. With these obviously near objects covered up, there was not the same clear indication of atmosphere, aerial perspective it is called, and the mountain was either a large one at a distance or a small eminence near at hand, apparently as satisfying in one role as in the other. Another view that came within our notice recently was one of Mount Tamalpais with a small bungalow and two children playing in the yard forming a part of the foreground, much as the creek bed and scrub trees did in the other. In this particular picture, the mountain really appeared more imposing than it did to the eye, and this was due to the fact that the picture was taken on a day when the effect of distance was enhanced by a rather less clear atmosphere than usual. We would be pleased to have our readers send in examples of such views, one taken as suggested and the other of the same subject taken with an open foreground of indefinite character as to distance from the camera. And as a means of verifying our contention in the matter, let the reader question such mountain pictures as may come before his observation, paying particular attention as to what kind of foreground has been selected. He will secure many good suggestions from such study, suggestions that he can apply in his own work when the mountains come before his camera as subjects.

Specializing That Pays

We had something to say not so long ago about the advantages of specializing in one's photographic work. And along comes a letter from an Eastern subscriber saying that is just what he has been doing, and doing with the most satisfactory results. He became interested in pinhole work some months ago; and, of course, found out that he could, by using this substitute for a lens, get pictures of quite tall buildings that did not permit of being photographed with any ordinary lens, even of the wide-angle type. A few carefully made experiments gave him the necessary amount of practice and confidence and then he started out and photographed every tall building in his town. The resultant prints were in good demand, simply because they were of subjects that the regular photographers had been compelled to either leave alone or else portray in a most unsatisfactory manner, generally by taking them from a point well above the street level and this point not always the most desirable one, even at this unnatural height, through having to take them from that particular spot at which a suitable window or other standpoint was located. To reproduce some of his excellent pictures, made six, seven and eight inches wide by ten high, would serve no good purpose, as the reduction necessary would overcome the very slight softening of the pinhole, and they would look just like any ordinary wide-angle work. In this connection it might be interesting to give his rule for finding the distance between the pinhole and the plate for any given subject. It is as follows: Height of building is to distance of camera as length of image is to distance of plate from pinhole. For example, a three hundred foot building is to sixty feet (distance for the camera) as nine inches (his desired height of image) is to five, or nine-fifths of an inch; in other words, a distance of one and four-fifths inches is required between pinhole and the 8x10 plate.

Hardening Negatives

A correspondent in Chicago contemplates a trip south, and as he expects to encounter some warm weather and wishes to do developing on the spot, writes to ask if it is not practical to use a formaline bath before development to prevent any danger of blisters or other hot weather troubles. If he has ever tried to intensify or reduce a negative that has been through a formaline bath, or even a fixing bath containing a hardener, he would understand that hardening before development was hardly advisable. Of course, drying a hardened negative, as would most likely happen with a negative to be intensified, adds to the difficulty, but even the avoidance of drying between subjecting the plate to the formaline bath and development would still impose a degree of contraction in the gelatine emulsion that would interfere with the working of the developer in a satisfactory manner. His best plan would be to see that all solutions were of about the same temperature and use as a developer one like amidol that does not require an alkali, the alkali being the main cause of film softening and the like.

For Blocking Out on Tissue

An Ohio correspondent wants to know the composition of the "dope" used to block out on tissue paper vignettes and on the glass side of negatives when large areas are to be covered, such as the space around a standing figure that is being printed with a white background or around vignettes. The "dope" is very easy to make and is quite inexpensive. It consists simply of a cheap paint or color in powder called Indian Red, well mixed with honey and then somewhat diluted with water. This correspondent explains that he is a professional and asks if there is any objection to other than amateurs writing this department for replies to their queries. There certainly is none, and we trust our many professional friends will write us whenever there is any question that we may be able to answer.

An Excellent Developer

A mixture of metol and pyro makes a developer which some workers prefer to all others. They will find the following is a good one:

A:	Water	20 ounces
	Metol	25 grains
	Potassium metabisulphite	65 grains
	Pyro	25 grains
	Potassium bromide	3 grains
B:	Water	20 ounces
	Sodium carbonate, dry	1 ounce

Mix equal parts and add an equal quantity of water, or whatever quantity of water will give the required result.

Panoramic View of Yosemite National Park

A panoramic view of Yosemite National Park, showing the characteristic features of the landscape, has just been issued by direction of Secretary Lane. This panorama shows in a striking manner the gradual rise in the elevation of the country from the western boundary of the park to the eastern boundary along the crest of the Sierra Nevada, and the sudden drop to the level area of the Great Basin. Eight colors were used in the printing, the meadows and valleys being in light green, the streams and lakes in light blue, the cliffs and ridges in combinations of colors in order to give the hazy effect characteristic of the region, and the roads in light brown. The lettering is printed in light brown, which is easily read on close inspection, but which merges into the basic colors when the sheet is held at some distance. The panorama is surrounded by a gray border in order to make an effective background. This view, which may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C., for twenty-five cents, measures 18½x18 inches, and is on the scale of three miles to the inch. It is based on accurate surveys and gives an excellent idea of the configuration of the surface as it would appear to a person moving over it in an aeroplane.

PROFESSIONAL NEWS AND NOTES

Seattle Photographers Banquet

Steps preliminary to the final organization of the photographers of Seattle, with the aim of promoting a better acquaintance and co-operative spirit, were taken at a banquet attended by nearly thirty camera men at the Washington Annex, Tuesday evening, March seventeenth. It was decided to hold another meeting a month later, when final organization will be effected. Those present at the banquet included Benjamin Reade, W. A. Soper, A. B. Smith, J. J. Webster, W. N. Stevens, A. Brisbois, E. Boyce, J. W. Lothrop, L. G. Linkletter, K. E. Nordlund, Asahel Curtis, A. Donaldson, A. L. Hamilton, M. P. Kirkpatrick, R. L. Stewart, R. E. McMann, L. L. Wendell, V. L. Bjorklund, F. C. La Pine, J. T. Long, J. D. Lewis, Allen & Perkins, M. V. Board, Harry Field, F. A. Jacobs and C. A. Bushnell.

Photographers' Ass'n of Missouri

The Photographers' Association of Missouri will hold its convention in St. Joseph, September seventh to tenth, inclusive, and about four hundred delegates will attend. W. F. Shultz, President of the St. Joseph Photographers' Association, says it is hoped that there will be formed a four-State convention that will meet in St. Joseph next year. C. L. Keeling, Nevada State President, will name delegates to attend the State conventions held in Kansas, Iowa and Nebraska; and, as these will be held before the Missouri convention meets, these delegates urge them to favor a four-State organization. The convention here will be held in the Prinz Dancing Academy. The Commerce Club has appropriated two hundred dollars for the convention of the photographers.—*St. Joseph News-Herald.*

The Royal This Year

The Royal Photographic Society of Great Britain are holding their fifty-ninth annual exhibition in August and September of this year. There are three sections of exhibits: Section 1, pictorial photographs; Section 2, color transparencies; and Section 3, scientific and technical exhibits, color prints, and natural history photographs.

Exhibits, together with a duly filled-up entry form, must be delivered in London on or before Friday, July thirty-first. Photographs may be unframed, but must be mounted. Information as to the exhibition and entry forms may be obtained by application to the secretary, 35 Russell Square, London, W. C., England. These should be sent for at once, and we trust that this country will be well represented in this important exhibition. Professor C. E. K. Mees has, in order to facilitate the entry of American exhibits intended for Section 3—those dealing with the scientific and technical sides of photography—arranged to collect and forward American work intended for this section, which should reach him not later than Friday, July tenth. Intending exhibitors in this scientific section should communicate with Professor Mees, Research Laboratory, Kodak Park, Rochester, New York, as soon as possible, that he may send them the necessary entry form.

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Alaska—P. S. Hunt, Valdez.

California—W. E. Thomson, 3540 School St., Fruitvale.

Colorado—O. E. Aultman, 106 E. Main St., Trinidad.

Connecticut—George E. Moulthrope, Bristol.

Florida—Capt. E. S. Coutant, Lock Box 73, Stuart.

Georgia—L. O. Surles, 231 E. Pine St., Atlanta.

Idaho—Eugene Clifford, Weippe.

Illinois—George A. Price, 1102 West Main St., Urbana.

Indiana—H. E. Bishop, 1706 College Ave., Indianapolis.

Iowa—C. E. Moore, Eddyville.

Kansas—H. E. High, Box 72, Ellsworth.

Maryland—E. G. Hooper, 218 East 20th St., Baltimore.

Massachusetts—John Mardon, 161 Summer St., Boston.

Michigan—W. E. Ziegenfuss, M. D., 327 West Hancock Ave., Detroit.

Minnesota—Leonard A. Williams, St. Cloud.

Mississippi—George W. Askew, Jr., 211 34th Ave., Meridian.

Missouri—Wharton Schooler, R. F. D. No. 2, Eolia.

Nebraska—Miss Lou P. Tillotson, 1305 South 32d St., Omaha.

New Hampshire—Mrs. A. Leonora Kellogg, 338 McGregor St., Manchester.

New York—Louis R. Murray, 17 Hasbrouck St., Ogdensburg.

New Jersey—Burton H. Allbee, 103 Union St., Hackensack.

North Dakota—Jas. A. Van Kleeck, 619 Second Ave., North, Fargo.

Ohio—J. H. Winchell, R. F. D. No. 2, Painesville.

Pennsylvania—L. A. Sneary, 2822 Espy Ave., Pittsburg, Pa.

South Dakota — C. B. Bolles, L. B. 351, Aberdeen.

Texas—J. B. Oheim, P. O. Drawer M, Henrietta.

Utah—John C. Swenson, A. B., Provo.

West Virginia—William E. Monroe, Box 298, Point Pleasant.

STATE SECRETARIES.

Answers to inquiries concerning membership and membership blanks will be supplied by the State secretaries. Album directors are at present acting as State secretaries in such of their respective States as have as yet no secretaries.

California—W. E. Thomson, 3540 School St., Fruitvale, Oakland.

Idaho—Eugene Clifford, Weippe.

Kansas—H. H. Gill, Hays City.

Missouri—J. F. Peters, Room 210, Union Station, St. Louis.

New York—Louis R. Murray, Ogdensburg.

Oregon—F. L. Derby, La Fayette.

Texas—Emmett L. Lovett, Roby.

Wisconsin—F. W. Freitag, 500 Monument Square, Racine.

Mississippi—George W. Askew, Jr., 211 34th Avenue, Meridian.

NEW MEMBERS

3834 Burt Stone, Lu Verne, Iowa.
Class 2.

3835—Clarence Harris, Box 357, Horton, Kan.
Class 2.

3836 Irving H. Davis, Box 189, Fitchburg, Mass.
Class 2.

3837—Dr. David Baker, Lock Box 6, Jordan, Mont.
$3\frac{1}{4}$x$5\frac{1}{2}$, developing paper, of western scenes, cattle ranches, sheep ranches, and cowboys; for miscellaneous views; post cards only. Class 1.

3838—G. C. Barnum, N. Fountain Ave., Springfield, Ohio.
4x5, various papers, of general amateur and professional views, dogs, etc.; for general amateur subjects. Class 1.

3839—Mrs. L. A. Culbertson, 300 E. Vine St., Mount Vernon, Ohio.
Class 2.

3840—Bessie Brown, Camas Valley, Ore.
Class 2.

3841—W. O. Lorimor, 207 S. Preston St., Ennis, Texas.
Class 3.

3842—Chas. S. Boyer, 1326 Second Ave., Seattle, Wash.
Class 3.

3843—Martin R. Robertson, Platteville, Wis.
Class 3.

3844—W. H. Hay, R. F. D. No. 1, Forest Grove, Oregon.
Post cards, developing papers, of camping, etc.; for anything of interest. Class 1.

3845—Edwin C. Bower, 1851 E. Hazzard St., Ken., Philadelphia, Pa.
Class 2.

3846—O. B. Halstead, Box 216, Unionville, Mo.
Class 2.

3847—O. Ingmar Oleson, Ambrose, N. D.
5x7 and smaller, developing paper, of miscellaneous stereoscopic and general subjects; for unmounted stereo and naturalist photographs; unmounted prints only. Class 1.

3848—William Charles, P. O. Box 33, Basom, N. Y.
5x7, developing paper, of landscapes, and

some photographs, also bromide enlargements; for post cards of farm scenes and general subjects. Post cards only. Class 1.

RENEWALS

188X—Edward Truman, Genoa, Neb.
6½x8½ and smaller, developing paper, of Indian reservation, White River "bad lands," round-up and Indian school scenes; for historical and views of general interest. Post cards only. Class 1.

1109—W. C. Maney, 5 Treacy Ave., Newark, N. J.
Exchanges unmounted stereo prints, P. O. P. preferred, not over four at a time. Wants no genre, no flower studies, no commonplaces. Has waterfalls, glens, snow scenes, night views, sea shores, giant vision, etc. Class 1.

1895X—Arthur L. Burgess, 227 N. Twentieth St., Columbus, Ohio.
Post cards on developing paper of landscapes, ray filter work, local views, Michigan scenery, vacation trips, etc. Desire good work of all kinds. Only good work sent out or desired. Class 1.

2009X—Dr. Chas. F. Meacham, Bellows Falls, Vermont.
Post cards. Class 1.

2479—Mrs. Lois E. Gundelach, Huntington, Oregon.
(Was Home, Ore.) Class 2.

2805—R. Vincent Solomon, P. O. Box 201, Madras, India.
3¼x5½, 3¼x4¼, 6¼x4¾, developing and printing-out papers, of scenery, views, and native types; for prints, any size, of deep-sea sailing ships, in dock, under sail, or at anchor; no other subjects. Class 1.

2810—C. L. Fuller, 1101 W. Third St., Sioux City, Iowa.
5x7 and smaller, developing paper, of landscapes, views, public buildings and park scenes; for any good views. Post cards only. Class 1.

3360—Clifford Smith, R. F. D. No. 1, Box 57, Antioch, Ill.
3¼x5½, developing paper, of landscapes and general subjects; for the same. Class 1.

3142—Henley H. Hall, 7 E. Broad St., Richmond, Va.
4x5 and 5x7, developing papers, of monuments of southern generals, scenery, public buildings, etc.; for railroad wrecks, old ruins, general scenery in the West, etc. Class 1.

3523—E. Wesley Lidaker, 1303 Armstrong Ave., St. Louis, Mo.
3¼x5½, developing paper, of park, snow, clouds, curios, bridges, railroad, locomotives; for the same. No portraits and no buildings. 3¼x5½ horizontal D. O. P. single weight only. Class 1.

3640—H. R. Vant, Deerfield, Ill.
Up to 5x7 post cards usually, developing paper, of miscellaneous; for anything of interest, especialy nature studies. Class 1.

3797—Amos Champlin, R. F. D. No. 4, Box 28, Hanford, Cal.
1⅝x2½ to 5x7, developing paper, of mountain scenery, groups and mining property; for California mountain scenery, landscapes (lake and river), nude and beauty poses. Send one single print with request only. Class 1.

CHANGES OF ADDRESS

2346—P. B. Speed, 1769 Railway Exchange Building, St. Louis, Mo.
(Was 1505 Pierce Bldg.)

2942—R. C. Smith, Box 1209, Butte, Mont.
(Was Anaconda, Mont.)

3390—D. M. Wogaman, South Canon, Colo.
(Was Denver, Colo.)

3545—Mrs. Ina L. Cook, Menlo Park, Cal.
(Was Tucson, Ariz.)

3644—Louis E. Hastings, Manager Union Station Restaurant, Tacoma, Wash.
(Was Pasco, Wash.)

3741—W. K. Edge, Dryden, Ont., Canada.
(Was Guelph, Ont., Canada.)

WITHDRAWALS

2395—Charles Thomas, Greensburg, Kan.
On account of lack of time.

3748—Charles A. Allen, Whitinsville, Mass.
On account of lack of time. Will publish a new exchange notice as soon as able to again exchange.

CLUB NEWS AND NOTES

California Camera Club

This Club has, since the last report, given a number of functions, including two highly successful dances and a "Christmas Jinks." The usual monthly lectures have been given, some with motion pictures in addition to the slides. Print exhibits by individual members as well as by the general membership have attracted much attention. The *Photo Era* collection has proven a popular attraction. Interchange slides from a number of camera clubs have been shown and demonstrations were held. Two of these last, those on Radium and on Liquid Air, being noteworthy. A delightful outing to Stanford University on February fifteenth and a "Blossom Outing" down the peninsula was given in March, and a benefit show drew a large audience on March twenty-seventh.

A big nine-day excursion, under Club auspices, to wonderful Yosemite Valley, will leave San Francisco on the morning of June sixth, over the Santa Fe, returning on the fourteenth, daylight both going and returning, allowing seven and one-half days of solid enjoyment for the low rate of thirty-three dollars and fifty cents for the round trip, including board and lodging in the valley. Friends of Club members may arrange to accompany the party.

Albert J. Le Breton, formerly President of the Club, died last month in Capri, Italy, while on a tour of Europe with his wife and daughter. Mr. Le Breton was for years closely identified with the activities of the Club, was President for two terms, acted as Director, was chairman of the Exhibition and other committees, and delivered many of the Club's monthly lectures.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

1914 Kodak Advertising Contest

In their announcement of the new 1914 contest in which three thousand dollars in cash prizes will again be awarded, the Eastman Kodak Company says: "Photographers are becoming better illustrators. Our 1913 Kodak Advertising Contest brought us by far better pictures than any of our previous contests. There was a greater diversity of ideas, and ideas are really the important thing in these competitions, though the pictures must also show good photography. Nevertheless, we received many pictures that were absolutely devoid of the advertising idea, pictures that were merely good landscapes or good portraits, and except for the fact that they were photographs, connected in no way with Kodak advertising. The successful pictures are always the ones around which the advertising man can write a simple and convincing story of the witchery of Kodakery and the simplicity of the Kodak system of amateur photography.

"The prizes are as follows: Grand Prize Class, open only to professional photographers who have won prizes in professional class in previous Kodak Advertising Contests. Negatives, 5x7 or larger. First Prize $500.00, Second Prize $400.00. Total, $900.00.

"Class A, professional photographers only. Winners in 1907 and in Class A, 1908, 1909, 1910, 1911 and 1913 are not eligible. Negatives, 5x7 or larger. First Prize, $500.00. Second Prize, $300.00. Third Prize, $200.00. Fourth Prize, $150.00. Fifth Prize, $100.00. Sixth, Seventh and Eighth Prizes, $50.00 each.

"Class B, amateurs only. Negatives, 3¼x 5½ or 4x5, or larger. First Prize, $300.00. Second Prize, $200.00. Third Prize, $125.00. Fourth Prize, $50.00. Fifth Prize, $25.00.

"First of all, it should be remembered that these prizes are not offered for the sake of obtaining sample prints or negatives made with our goods. Merely pretty pictures, merely artistic pictures will not be considered. The pictures must in some way connect up with the Kodak idea—must show the pleasure that is to be derived from picture taking, or the simplicity of the Kodak system, or suggest the excellence of Kodak goods. Must, in short, help to sell Kodak goods, by illustration of some one of the many points in their favor.

"The jury will be instructed to award the prizes to those contestants whose pictures, all things considered, are best adapted to use in Kodak (or Brownie Camera) advertising.

"As reproductions of the pictures will often be in small sizes, too much detail should not be introduced. Pictures for reproduction should be snappy — vigorous, for they lose much by the halftone process. Where apparatus is introduced, it must be up to date. If you haven't the goods, you can borrow. It is highly probable that we shall want to secure some negatives aside from the prize winners. In such cases special arrangements will be made.

"The jury of award will consist of photographers and of advertising men who are fully competent to pass upon the work submitted. Full attention will be paid therefore to the artistic and technical merit of the work as well as to its strength from an advertising standpoint. Announcement of the names of the judges will be made later."

We ourselves would call special attention to the importance of intended contestants first getting as clear an idea as possible of what really makes a suitable picture for advertising purposes. And above all, do not imagine that something faked up to represent a man falling from the moon, receiving a camera from the hand of a tinsel-winged representation of an angel, or anything of that kind, is going to win a prize. At least we do not think they will. We know of a lot of such efforts that have been submitted in former competitions, yet the published pictures of prize winners have always been of the simplest and most straightforward character. We would also call attention to the additional second grand prize open only to those professionals who have won in previous Kodak contests. It would seem that provision is fairly made for all, both previous winners and others.

The terms governing are as follows:

"1. Each picture is to contain a figure or figures and is to be suitable for use as an illustration in advertising the Kodak or Kodak system of amateur photography.

"2. Each print in the Grand Prize Class and Class A must be from a negative 5x7 or larger. Each print in Class B must be from a negative 3¼x5½ or 4x5 or larger.

"3. Prints only are to be sent for competition—not negatives.

"4. Prints must be mounted but not framed. (Mounts should show about one-inch margin.)

"5. No competitor will be awarded more than one prize. (This does not prevent a competitor from entering as many pictures as he may desire.)

"6. Due and reasonable care will be taken of all non-winning prints and, barring loss or accident, they will be returned to their owners at our expense, but we assume no responsibility of loss or damage.

"7. The negatives from which all prize-winning prints are made are to become the property of the Eastman Kodak Company, and are to be received by it in good order before payment of prize money is made.

"8. Contestants who are awarded prizes must also furnish to us the written consent of the subject (in case of a minor, the written consent of a parent or guardian) to the use of the picture in such manner as we may see fit in our advertising, as per the following form:

"........................

"For value received, I hereby consent that the pictures taken of me by........ ...., proofs of which are hereto attached, or any reproduction of the same, may be used by the Eastman Kodak Company or any of its associate companies for the purpose of illustration, advertising or publication in any manner.

"........................

"I hereby affirm that I am the (parent / guardian) of ...., and for value received, I hereby consent that the pictures taken of (him/her) by .... proofs of which are hereto attached, or any reproduction of the same, may be used by the Eastman Kodak Company or any of its associate companies for the purpose of illustration, advertising or publication in any manner.

"........................

"9. All entries should be addressed to Eastman Kodak Company, Advertising Department, Rochester, New York. Entries from Canada should be sent to the Canadian Kodak Company, Toronto, Canada.

"10. In sending pictures, mark the package plainly, 'Kodak Advertising Contest,' and in the lower left-hand corner write your own name and address. Then write us a letter as follows:

"I am sending you today by (express mail), charges prepaid,...........prints. Please enter in your Kodak Advertising Competition. Class..............

"Yours truly,

"Name ....

"Address ....

"11. The name and address of the competitor must be eligibly written on a paper and enclosed in a sealed envelope in the same package in which the prints are forwarded. There is to be no writing on prints or mounts.

"12. We will promptly acknowledge the receipt of pictures, and when awards are made, will send each competitor a list of prize winners.

"13. Recognized professional photographers, including commercial and newspaper photographers, in short, all persons (except those entitled to enter the Grand Prize Class) depending upon the use of a camera for a livelihood, will compete in Class A. Class B is open to amateurs only.

"14. This contest will close November first, 1914, at Rochester, New York, and October twentieth at Toronto, Canada."

Reported by William Wolff

Linsey Thomson, formerly with the Boussum Studio, now has charge of the darkrooms of Turner & Dahnken, the "movie" people.

Mr. and Mrs. Bert L. Blasing, of Denver's Studio De Lux, spent a month in California recently.

Archie Henline, of Klamath Falls, Oregon, is turning out some fine enlarging work.

Miss Esther Krueger, of the Los Angeles Bushnell Studio, is now in their Sacramento studio.

Mr. Sacrider, of the Green Studio in Marysville, was in San Francisco recently buying a new outfit.

W. S. Valentine drove to San Francisco from Redding recently. He reports roads in good condition.

William Wolff, of Probus paint fame, expects to go to Atlanta in June to attend the National Convention. He will boost for 1915 as well as for Wolff & Dolan.

Eugene, Oregon, now boasts eleven studios. How can they do it?

Ben Lyle is back in the photo business with the Defender Company.

New Seneca Catalogue

The 1914 edition catalogue of the Seneca Camera Manufacturing Company is here, brimful of interest. If you are at all interested in cameras, you should see it. It covers a most complete assortment of cameras for roll film, film pack and dry plates. The greatest mission of this issue is doubtless to feature the folding roll film line, as we notice all of the sizes are being offered in the popular round-end model, one covered with genuine seal grain leather. No pains seem to have been spared to make this assortment unusually good, particularly noticeable being the fact that they are using the push cord release on all of their shutters. We find that two notable additions have been made to the Scout line, featured with genuine leather covering. Considerable advance is shown in the sundry portion of the Seneca line. If you are interested in learning concerning all the good things offered in the issue of this catalogue, the Seneca Camera Manufacturing Company, Rochester, New York, will be pleased to mail you a copy upon request.

A Letter From Mr. Dawes

We have just received a letter from J. A. Dawes, the new manager of the Promotion of Trade Department of the Wollensak Optical Company, in which he assures us that the splendid policy which his department has followed in the past will be carried on under his personal guidance. We might also explain that the Promotion of Trade Department is maintained for the sole purpose of helping those interested in the Wollensak product, and Mr. Dawes is always on the alert for an opportunity to assist those so interested in any way possible. The Wollensak Optical Company backs up all its goods with the broadest guarantee and grants a liberal trial privilege on all lenses. If in doubt, write Mr. Dawes about it, addressing him care Wollensak Optical Company, Rochester, New York.

An Announcement

Permit me to inform you that I have severed my connections with the Wollensak Optical Company, of Rochester, and am now associated with the Raw Film Supply Company, Incorporated, 15 East Twenty-sixth Street, New York City, in the capacity of director of publicity and sales.

I desire at this time to thank you for the many courtesies and favors extended me while associated with the Wollensak Company, and sincerely trust I may have the privilege and pleasure of reciprocating for this kindness by being of service to you in my new position. Make my offices your headquarters when in New York City. The latch string will always be out.

Cordially yours,

H. O. Bodine.

The Self-Taught Artist

"A self-taught painter is taught by a very ignorant person." So said Constable. One wonders what he would have said about the self-taught, self-styled photographic "artist." One of the most curious things is the widely prevailing notion that, with respect to art and religion, any one can give a useful opinion without previous study. While these two subjects are perhaps the two which demand the greatest study, who of us has not heard some one say, "I am not an artist, and know nothing about art, but I can tell a good picture directly I see it"? What should we think of one who said, "I know nothing about navigation or shipbuilding, but I can tell whether a vessel is properly constructed directly I see it"? Until one has learnt how little one knows of a subject, the foundation of knowledge has not begun.—*The Amateur Photographer.*

About Atlanta

Atlanta, seventy-four years old, was first called "Terminus," being a little village at the end of the Western and Atlanta Railroad. About the time General Sherman reached Atlanta, the population was ten thousand. Today it is one hundred and eighty-five thousand, and the two hundred thousand mark will be reached in a short time. Atlanta, covering twenty-six square miles, has two hundred mile of modernly equipped electric railway and six hundred manufacturing plants. It is reached by thirteen railroads, over which there daily pass one hundred and thirty-six passenger trains. It is justly called the metropolis of the "New South." Atlanta, at the foothills of the Blue Ridge Mountains, is over one thousand feet above the sea level. There is always a breeze and a bracing atmosphere; the reports of the United States Weather Bureau showing that the average temperature in June for the last thirty-four years has been seventy-six degrees; the highest temperature being ninety-eight and the lowest, thirty-nine degrees. General Sherman kept one hundred thousand men around Atlanta for six months and he declared that there was no place on the continent where he could have kept so large a body of men in such perfect health.

Has New Department

President Bissell has just installed a new department for instruction on the air brush at the Illinois College of Photography, and a thorough course will be given in that line of work. The tuition fee in this department is one hundred dollars.

The college recently placed an order for forty-five of the better grade of brushes, ranging in price from twenty to thirty dollars each and aggregating a total, with other supplies, of about eleven hundred dollars, which is the largest order for air brushes ever given by any college in the world. The inventor of the brush came to Effingham and spent the day demonstrating it to the students.

It must be understood that an air brush is not a hair brush. There is quite a difference besides the "h." The air brush is a complicated device for throwing a jet of air laden with atomized pigment, and is used extensively in a number of the late mechanical arts such as photography in general, photo-engraving, enlarging, decorating, card writing, etc.

The air-brush work at the college is under the direction of Professor Dishinger.—*Effingham Record.*

Two Valuable Attachments

There are two little attachments, advertised from time to time in our pages, which every Kodaker should own and make good use of during the coming season. The one will so materially increase the efficiency of his Kodak as to make it capable of doing the work of two cameras, while the other will, in many instances, improve the artistic quality of negative, made with its aid, about one hundred per cent. We speak of the Kodak Portrait Attachment and the Kodak Color Screen. One never realizes the advantages of a Portrait Attachment until he has used one for portraits and other interesting close work. And the same may be said of the Kodak Color Screen. The Kodak Color Screens are scientifically made and are especially suited for reproducing cloud effects in the negative as the eye sees them. Instantaneous exposures are readily made in one-tenth of a second in bright light, and the results are most beautiful. These attachments are really worth having, if you are interested in making better Kodak pictures.

Notes From The Illinois College of Photography

A. S. Nakamura, who finished his course at the College several months ago and took a position at Altoona, Pennsylvania, became suddenly ill recently and was taken to the hospital in that city.

Among the students enrolling last month were C. F. Cann of Finland, Russia, and his sister, Miss L. Cann. After finishing the photographic business they will locate in Australia. H. Sakakura and H. Kurosawa, two Japanese young men, also enrolled during the month.

Prof. C. W. Fisher and Secretary Rinehart have returned from a two weeks' vacation in Florida, where they superintended the planting of a couple of citrus groves and enjoyed the delightful winter climate with several other tourists from the North.

H. Yonekura, who recently finished a course in engraving and three-color work, has returned to Honolulu, where he will be employed on the Hawaiian-Jananese newspaper of that city. Mr. Yonekura says several of his friends will start for the college on his arrival home. He has been especially successful in the three-color work.

Try Instanto

The Photo Products Company, Department E, 6100 La Salle Street, Chicago, Illinois, are extremely pleased with the constantly growing demand for their Instanto printing paper. The ease with which it is worked and the crispness and delicacy which can be obtained through its use is making for it many friends among photographers everywhere. For introductory purposes they will send you, just once, upon the receipt of twenty-five cents, three sample dozens postals or 4x6. It comes in three surfaces, semi-matte, glossy or dead matte in hard, soft and extra-hard grades. You can make your own choice. Full instructions will accompany their letter. Try it—you will not be disappointed.

A Timely Utility

A most compact and useful photographic accessory has recently been placed on the market and is meeting with enthusiastic approval. It is the Kodak Magnesium Ribbon Holder manufactured by the Eastman Kodak Company, Rochester, New York. The magnesium ribbon is wound on a roll inside the holder and is pushed forward by the thumb until a piece of the desired length projects from the holder. This is ignited by holding the projecting ribbon in a flame, the light produced being an intense white, especially suited for printing Velox or making lantern slides. The ribbon is so contained in the holder that only that part which projects will burn, so the amount of light for each exposure may be accurately measured by measuring the projecting ribbon. The device will be a boon to campers, tourists and others who find themselves in places lacking a suitable light for quick printing. The bright light of the magnesium is not only preferable to an oil light, but is superior to either gas or electricity for accuracy and speed. We feel sure that a Kodak Magnesium Ribbon Holder will be a part of the equipment of every progressive amateur. The Kodak Company also supply a small alcohol lamp for use in burning the magnesium ribbon. Both may be had from your dealer at a nominal cost.

High-Speed Flashlight Work

There is a wide and waiting field for high-speed work by flashlight, a field that is well worth invading, both by the amateur who wishes new and interesting results and by the professional who desires to add to his income and reputation as a photographer able to cope with difficult subjects. On another page will be found a small advertisement by the Prosch Manufacturing Company, 206 East Nineteenth Street, New York, and our readers should investigate the new electric shutter and flash attachment they are offering. This firm has long been making flash apparatus and this new utility of theirs is entitled to full consideration. Get a circular of your dealer or write directly to the firm for information.

Correct Exposure

One of the most practical and complete exposure guides that we have ever seen is the Woodworth Exposure Meter that costs only twenty-five cents and can be obtained from E. Woodworth, Angola, Indiana. It works on a new principle that will at once appeal to the user as being most logical and sensible, and particularly so in connection with the simple yet comprehensive table carried directly on the meter itself. It is a meter that we can recommend to all our readers having trouble in estimating correct exposure.

Assur Colors

A new circular which deals with the Assur Coloring Method has just been issued by Messrs. Schering & Glatz, 150-152 Maiden Lane, New York. It comprises the experience of expert "Assur" artists and has many new and important features. Aside from the modifications of the technique, it contains hints as to the use of Assur Colors on platinum paper, gives more detailed instructions concerning the coloring of portraits and tells how the colors may be reduced without disturbing the uniformity, if they have been applied stronger than finally desired. Another valuable use to which these colors may be put is the production of effective and absolutely permanent background wash effects—as well as the working on Photoloid. The demonstration of the "Assur" process convinced the photographers who visited the Portrait Photographers' Association of Pennsylvania in Scranton last month, that the Assur Colors have no equal. The booth of Schering & Glatz was crowded with interested photographers from early morning until the closing hour.

Rochester Photo Works Incorporated

W. M. Schultz, Ph. D., proprietor of the Rochester Photo Works, and Francis T. Buss, son of the former president of the Seed Dry Plate Company, St. Louis, have formed a company, which takes over the business of the Rochester Photo Works and continues it under the name of the Rochester Photo Works, Incorporated. The capital stock of the new firm is one hundred thousand dollars.

It will be the aim of the new firm, in the first place, to give the excellent line of developing papers manufactured by the Rochester Photo Works, a wider distribution than has heretofore been possible. Their enlarging papers, known under the names of Velour Black and Brome Black, already hold first place in their particular field. Their commercial papers, which also have been a special line of the Rochester Photo Works, are being used by many of the largest commercial photographers throughout the country and furniture photographers especially have been loud in their praise of the special furniture papers manufactured by the company.

The latest product of the Rochester Photo Works is their Black Laurel portrait paper, which is claimed to be the most advanced product in this line, and this will be given special attention. Further interesting additions are in course of preparation.

The new firm will be in unusually good shape to pursue its ambitious policy of manufacturing only the best in every line, and the firm possesses in both Dr. Schultz and Mr. Buss, chemists of more than ordinary training and experience.

Dr. Schultz is a graduate of the German University, Koenigsberg, and has had a wide practical experience in all branches of the photo-chemical industry, both in Europe and in this country. In the last ten years he has been connected with the Rotograph Company, New York City; later for some years with the Haloid Company, Rochester. For the last five years he has conducted the business of the Rochester Photo Works. Mr. Buss holds his degree from Washington University, St. Louis, and is experienced in photo-chemical and photo-physical research, having until recently been connected with the research laboratory of the Eastman Kodak Company.

New Ipsco Catalogue

There has jnst reached our desk a copy of the new "Ipsco" catalogue of cameras, plates and papers, a catalogue that we are sure will please our readers who are interested in a line of photographic goods of the highest quality. Ica miniature and hand cameras are listed in bewildering number, all with full and complete specifications covering every detail. Ipsco Reflex, Minimum Palmos, Ica Polyscope, and other special cameras also have attention, as well as the excellent line of Ilford plates and papers. Copies of this interesting catalogue can be obtained by addressing International Photo Sales Corporation, 235 Fifth Avenue, New York.

Making Good Negatives

There is a little book published, that, if read and digested, would give one a complete command over the production of good negatives. In fact, its directions followed, one would be as sure of making a good negative each time as he would be of doing anything else concerning which he had full knowledge. And the best part of it is, this little book is sent free upon request. Simply mention this magazine and ask the Hammer Dry Plate Company, Ohio Avenue and Miami Street, St. Louis, Missouri, to send you a copy of their little book "A Short Talk on Negative Making."

Statement of the ownership, management, circulation, etc., of Camera Craft, published monthly at San Francisco, California, required by the Act of August twenty-fourth, 1912.

Editor, Fayette J. Clute, San Francisco, California. Managing Editor, Fayette J. Clute, San Francisco, California. Business Manager, Fayette J. Clute, San Francisco, California. Publisher, Fayette J. Clute, San Francisco, California. Owner, Fayette J. Clute, San Francisco, California. Known bondholders, mortgagees, and other security holders, holding one per cent or more of total amount of bonds, mortgages, or other securities, none.

(Signed) Fayette J. Clute.

Sworn to and subscribed before me this twenty-fourth day of March, 1914.

Sid J. Palmer, Notary Public, in and for the City and County of San Francisco, State of California. My commission expires December thirty-first, 1914.

XXI No. 5 MAY, 1914 Price, 10 Cent

CAMERA CRAFT

SAN FRANCISCO
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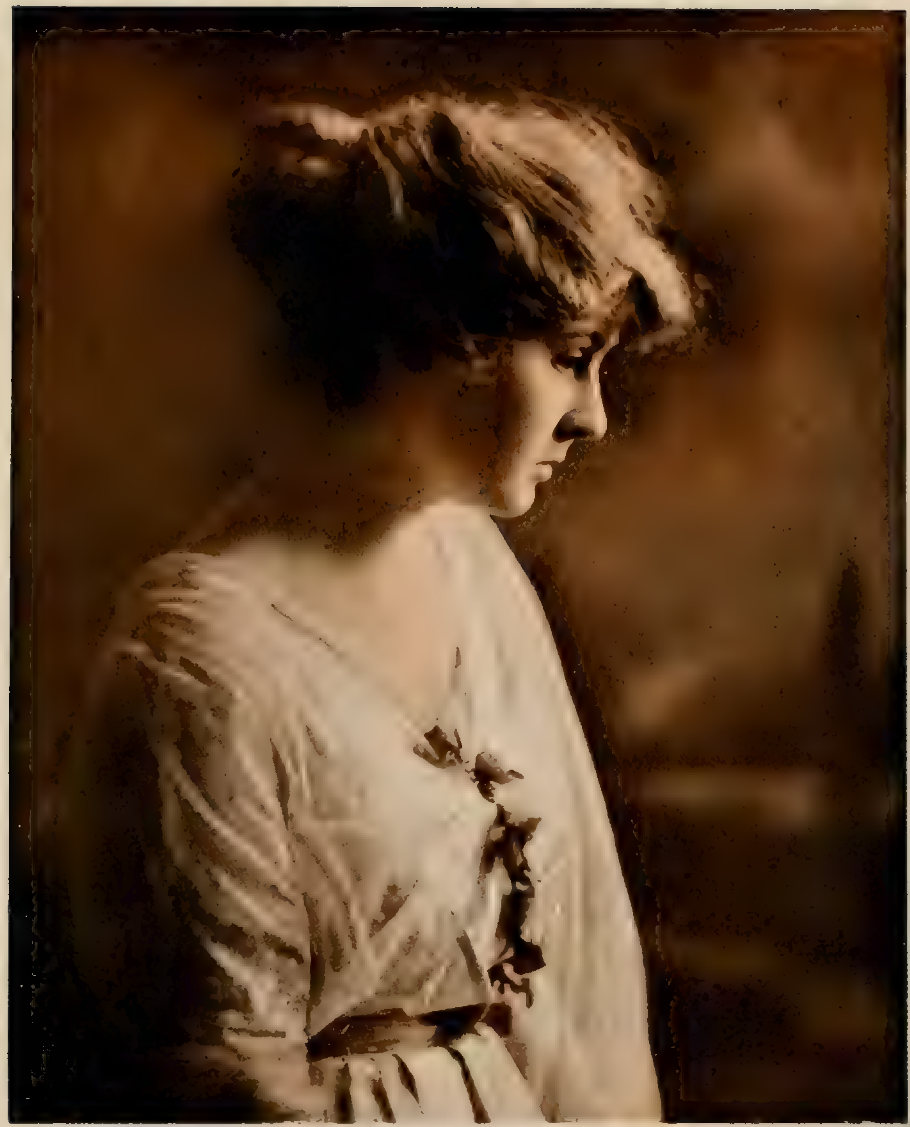

A PORTRAIT
By GEO. G. FRASER

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY
FAYETTE J. CLUTE, Editor and Proprietor
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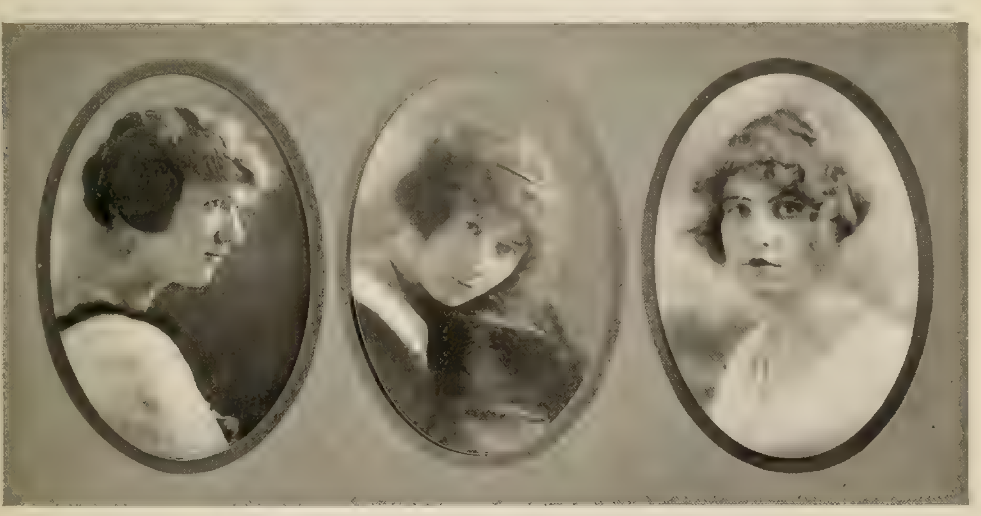
Success in a One-Room Studio

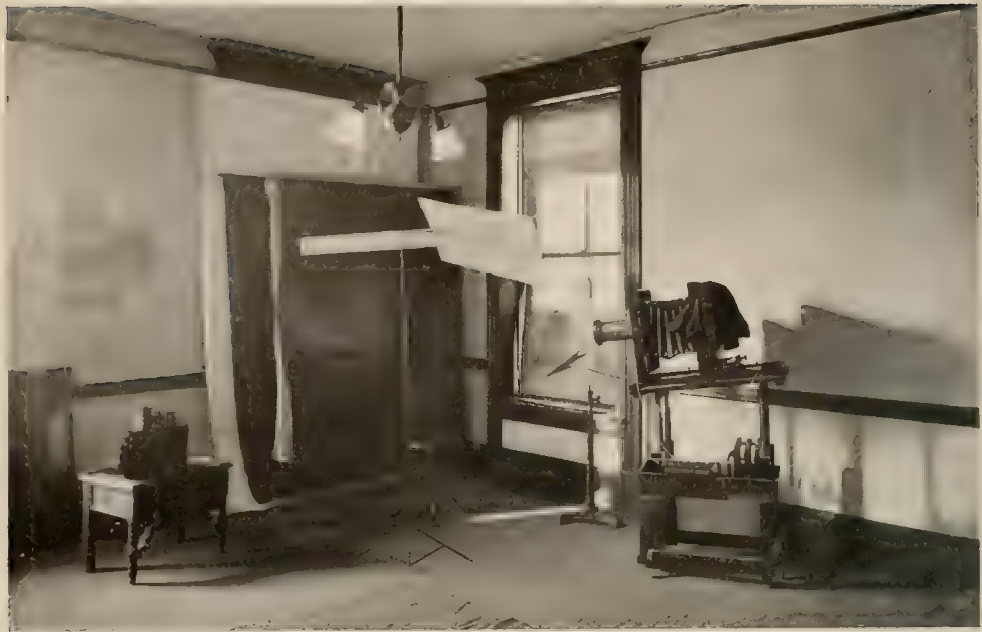
By E. R. Trabold

With Illustrations by the Author

The average photographer, especially the amateur, has the idea that without a complete studio there can be no fancy lightings, no striking effects; in fact, no perfect results in portrait work. But such is not the case. By a complete studio I mean a number of rooms, consisting of a reception room, an operating room including skylight, dressing room and darkroom, besides



A FEW LIGHTINGS MADE IN THE ONE-ROOM STUDIO



SHOWING THE ARRANGEMENT OF THE ONE-ROOM STUDIO

at least one general workroom. This means, to the operator, that he must pay a good rental; and, if just starting in business, considerable expense in furnishing throughout. For several years I followed that plan, in various places; but, on my return from the West, last fall, I decided on an entirely new procedure· A One-Room Studio! I shall try to explain how I made a success of it, doing so in such a simple manner that the amateur can understand it as readily as the professional.

In this city are four well established studios, one of which I own in partnership with my brother. This last is in a good location, and heretofore, on returning to my home town, I have stepped into my usual place there and on so doing shared evenly in the profits. But instead of doing this upon my last return, I rented a back room, where I had elevator service, on the fourth floor in a large block on the main street. The room was 18x20 feet in size, having one north window and a western one. By the accompanying photograph the arrangement can be studied out as I describe it. I first located my backgrounds, Eastman portables, with carriers, against the west wall near my north window. My reflector I made of heavy white curtain shade cloth, which I attached to its frame, an ordinary music rack. In the photograph this reflector is shown rolled up in order to show the stool and window. My head screen is a professional one; but, if you have none, take a large wooden hoop, cover it with two thicknesses of white cheese cloth, and tack to a strip of wood several feet in length. This is to be held in the hand and the light controlled as you wish. It is best to use it as nearly like a side screen as possible, on account of the strong side light from the window. This north window I covered with white tissue paper to soften the light, and also fitted it with a window shade which runs up from the bottom, fastening with a clamp pulley at any height required.

Any good camera or lens will do the work, but I have a New York studio outfit and use a Verito, a Vesta, and a 11x14 Willard lens that I use a great deal for large work. The first two lenses are not at all necessary, but add greatly to the variety of the work, as does any good type of diffusing lens. Some of my most beautiful results have been obtained with them and I advise at least one such if possible, as it will soon pay for itself and give one the most artistic results.

Next I took a large cracker box, lined it inside and out with a heavy green cloth, attached a pair of light-tight sleeves to two holes, large enough to admit my hands, cut through the side. This box I nailed to the side of the wall at a convenient height from the floor and near the northeast corner of the room. The plates and their holders were placed inside by raising the lid, also covered with cloth and capable of being fastened securely when closed. In this manner I had a complete changing box and one that proved most satisfactory.

On the south side of my room I placed my desk, several chairs, and fixed my substitute for a dressing room. For this I had a large mirror, placed so that the light from the east window struck it in the right way, a table containing the needed toilet articles, and a chair. To hide these and give my customers a sense of privacy, I placed before it a large folding screen.

Enough of the description of my studio, but I might say that although it may appear crowded I had plenty of room left in which to work. Of

VARIOUS EFFECTS ARE EASILY SECURED

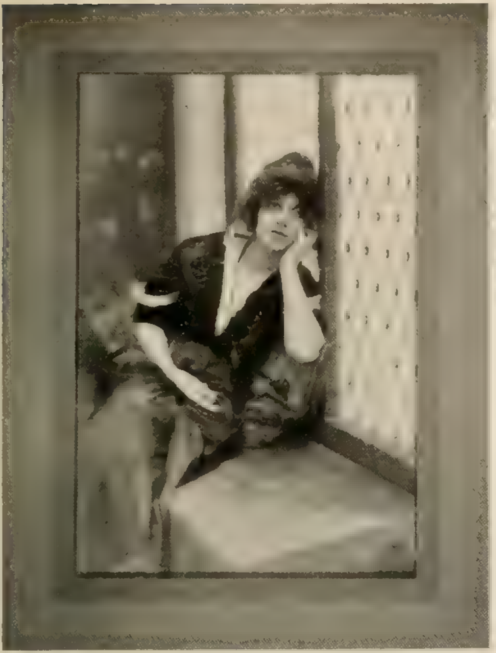
course, my printing and developing was done either at my home or our other studio, but mostly at home.

Perhaps it would be well to briefly explain how I obtained different lightings by the most simple methods. First, take a plain broad lighting. Seat your subject on a stool or chair, facing directly towards the window so that the shoulders are on a slant from the camera. Then turn the head only towards the camera until a full face view is secured. I always try to show only one ear, particularly as some ears are too prominent for beauty. Make it a point to always keep your camera on as near a level with the sitter's face as possible. One will notice, in trying such a light, that the light is very hard on the side of the face nearest the window while the other side has too deep a shadow. To correct this, place the head screen between the light and the subject and the improvement can be seen at once. Then take the reflector and place it, not directly opposite the shadow side, but more to the front of the subject; a few trials will suffice to show its proper location. Look the subject over carefully, seeing that there are no bad wrinkles in the clothes. Then, to make the exposure, use a portrait lens, wide open, working at f-5, giving about two seconds exposure if the light outside is bright. This is the exposure I use with all my lenses, except when the subject is a baby, then I use bulb entirely.

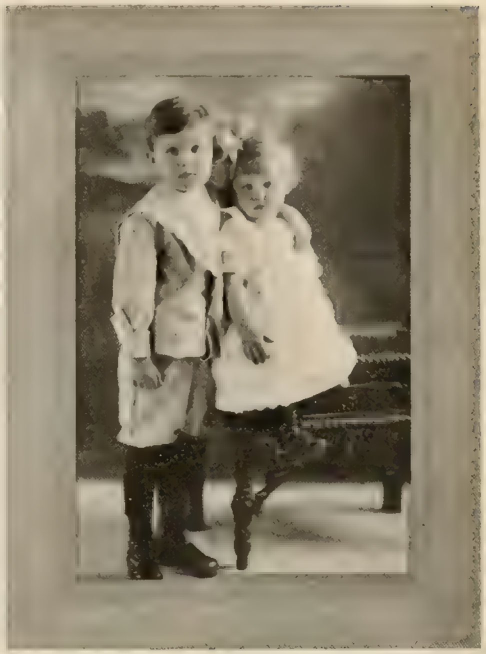
Many photographers are under the impression that a "line" lighting is very difficult to make, but such is not the case. Here is the simplest way possible and one giving excellent results. Place the subject in the same position as for plain lighting. By just glancing at the picture of my studio you can see exactly where the stool is located. Move the camera around so it points almost into the window. This brings one on the shadow side of the subject with the only light falling on the profile and forming a fine line. One may need a shield over the lens to avoid fog and halation, but I do not find it at all necessary. Shift the background so that it is in back of the subject, and tone down the light on the profile with the head screen. Bring up the side reflector and lighten the shadow side of the face. Give ample exposure for this light. Rembrandt, line, shadow, and many other fancy lightings can be made in this same manner by simply moving the camera about instead of disturbing the subject. The best point is that the subject is not so inclined to become self-conscious or nervous when one works in this manner. A few experiments along this line will show one the value of the suggestion.

When making white grounds or white vignettes, place the subject some distance from the background so that the light can strike fully upon the latter. Be sure not to under-expose as so doing causes more than half of the ill success in the results. These white grounds, when worked up with lead and an eraser, make very dainty portraits, especially for heads, and as the artist becomes skilled, effects resembling etchings may be produced with but little work.

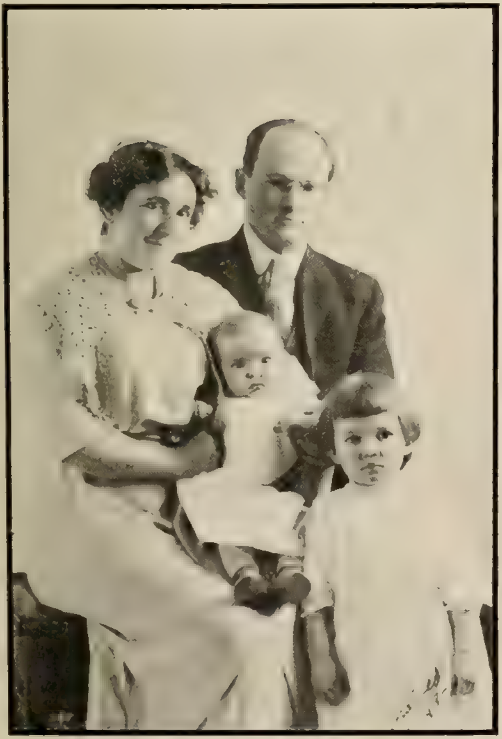
Another very pretty result can be seen in the photograph taken with the



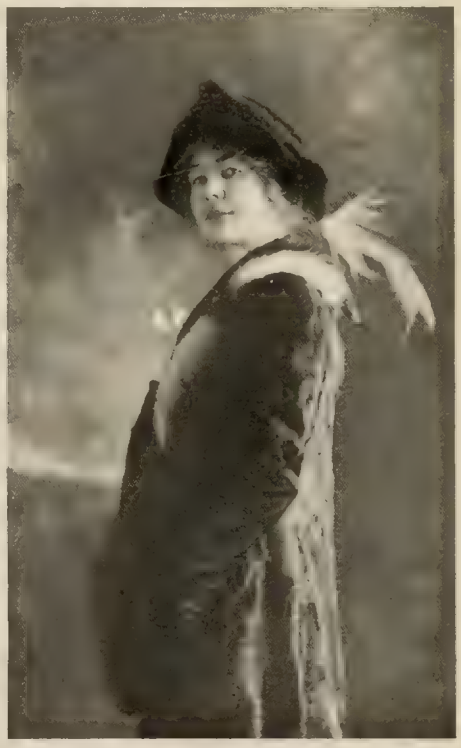
A WINDOW EFFECT AS DESCRIBED



CHILD PORTRAITURE QUITE EASY



A FAMILY GROUP



A SIMPLE POSE

window seat. To produce this stained-window effect I made a frame to fit my north window, covered it on the back with one thickness of white cheese cloth, and onto this cloth pasted two thicknesses of the paper window paneling, such as may be procured at any department store for ten cents a yard. On the reverse side of the cloth I pasted a single thickness of white tissue paper to soften the light still further. When I wished to use this for a background I removed the shade from the window and simply set the frame in place. In taking this kind of a photograph, the lens, of course, points directly into the light, but I have never had any trouble with fogged plate; due, no doubt, to the light being softened to such an extent. For the seat I simply took a strong box, covered it with heavy green cloth and placed three or four sofa pillows thereon. The effect is quite as pleasing as it was inexpensive. Everyone has his own pet formulas and nearly always a choice in plates and paper, so I will not advise on that point further than to say that good results may be obtained from any standard goods.

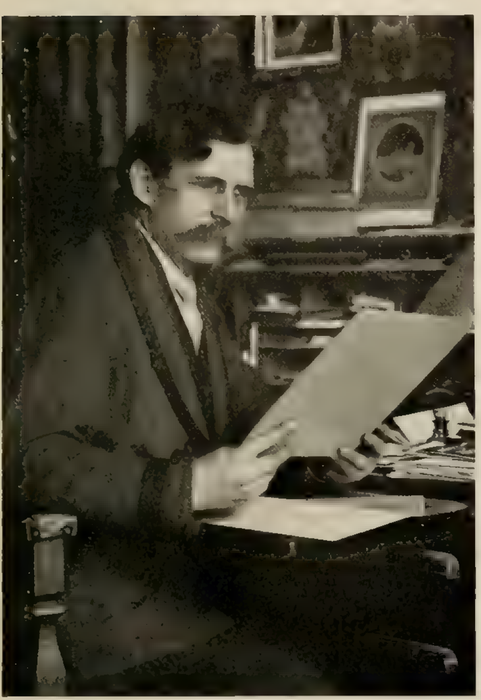
Brother photographers, try this one-room studio if things seem to be going slowly. You will, in all probability, be able to see chances for improvement; but by this simple arrangement I saved labor, time, and money, at the same time securing results that, while gratifying to myself, were, most important of all, gratifying to my increased number of customers.

In every nation there has been manifested in varying degrees, a desire for decoration, and the objects selected for ornamental embellishment, together with a type of decorative design employed, afford an indication of character and pursuits of a nation no less than of the position it has attained in artistic achievement.—Stanford F. H. Robinson.

THE SHEEP PASTURE By F. BELMONT ODELL

The Element of Personality

By George D. Jopson



A PORTRAIT OF THE AUTHOR

How many of you, kind readers, who operate studios, have not had some member of a friendly party visiting your place pick up one of your sample pictures, possibly one that you felt was both technically and artistically correct (for it is infallibly one such that is pounced upon), and remark: "Oh! that is Mary Jones; but it does not look a bit like her." Haven't you inwardly boiled just a wee bit? Possibly you have felt like coming back, if you didn't do it, with: "If it doesn't look like Mary Jones, how in the world did you recognize the picture so quickly?"

If we carefully consider the matter we will realize that the person who made the comment is both in the right and in the wrong. In the first place, Mary may perhaps have arranged her hair in a special manner for the occasion. We all know to what an extent a young lady can alter her appearance by that simple(?) process. Or possibly Mary is not very often seen in the particular waist she wore on this special occasion; and, besides, she may have added a few little extra touches, all of which assisted in detracting from her more natural, everyday personality.

Mary has put forth every effort within the capabilities of her skill and her wardrobe in order to make her picture as attractive as possible. She presents herself at the studio. Ah, ha! The inspiration for an artistic conception is at hand, and the photographer determines to do it full justice. He is going to excel himself. He carefully considers every detail, arranges the curtains so that the lights and shadows will blend harmoniously, poses Mary so that the spacing of the picture will be perfectly in accord with the rules. He is working for a master stroke, forgetting all about Mary and that personality known to her friends. The result is a record of the photographer's artistic efforts that may win for him a gold medal, but the personality, the individuality, of the sitter has been lost.

The following story, which no doubt has any number of parallels, will serve as an illustration. Possibly you yourself have had the same experience or have heard some other photographer tell of a similar incident. There was a very charming young lady residing in a certain town, and the local photographer was very anxious to have her pose for a study of a head with light shoulder draperies. He called at the young lady's home and talked the matter over with her and her mother, both of whom were delighted with the suggestion. A sitting was arranged, the photographer put forth all his skill and secured a picture that won for him high honors. But a short time after and this lovely girl, the embodiment of health, was suddenly grasped by a fatal illness and in a few short days the grim destroyer, Death, claimed her. A little later the heart-broken mother brought a 3¼x4½ snap-shot picture of the young lady to the photographer and asked if it could be enlarged. It had been taken with the young lady on the back porch, broom in hand, apparently in conversation with someone. "Why, Mrs. M———," the photographer inquired, "why do you want this snap-shot picture enlarged when I have such a beautiful picture of Laura?" "Yes, Mr. G———, you have a beautiful picture of Laura, but it is only a picture; there is too much of Mr. G——— in it and very little of Laura. In this snap-shot it is all Laura, Laura as we saw her every day."

Thus was shown the importance of securing the element of personality. The mother, while the daughter was in life, admired the creation of the photographer; but after her loss she looked for that something in the beautiful portrait that would respond to the craving of the mother's heart. But the personality that was expressed in the photograph was that of the photographer, and the mother felt it, while the personality displayed in the snap-shot picture was that of her daughter, all unconscious of the prank of a younger brother in taking a picture of "Sis" with a broom in her hand while she paused for a moment to pass a pleasant remark with the neighbor over the fence.

A lady once came to me and said: "Mr. Jopson, I want a good picture of my husband, one showing him just as he appears when at home evenings. He has never had what I call a good one, although he has been photographed by some of the best artists on Fifth Avenue, New York. They only secure that stern expression we are apt to see him wear in his office." (Very condescending on the part of the lady.) "Now, I am going to try you."

Poor man, I could see where his trouble lay, at least in part. It is a bore to the average man to have his picture taken, and this poor fellow, without doubt, had had photographs drummed at him so persistently that he was on the point of changing his name to "Henry Peck." Possibly he went to the photographer's chair with the same feeling that a condemned man carries to the electric one. This particular gentleman is a very busy business man, one who perhaps manipulates thousands of dollars each day, for aught I know, each hour. His mind is constantly upon business and he habitually wears, at least during business hours, a strong, commanding, business expression.

PERSONALITY CONVEYED IN BOTH POSE AND EXPRESSION

He entered my studio with: "Well, let us have it over with as soon as possible; I cannot spend much time with this foolishness," and he certainly looked bored. As you all know, a subject in that frame of mind is a hard one to take in hand. His mind must be diverted to something that will interest him temporarily so that one can bring out his better self, his innermost soul, from behind that mask of severity.

I hinted at his business, only to bring out a none-of-your-business expression; I remarked about the weather—bored. I mentioned politics—bored and disgusted. Other subjects were lightly touched upon, with no better results and my own discouragement growing. Seven or eight plates had been exposed, each succeeding one passing from bad to worse; nothing accomplished towards drawing this man out of his stern business self.

A happy thought, an inspiration. I had heard, at some time or other, that my subject enjoyed a game of checkers. I mentioned checkers, he became interested at once, and I followed up my advantage by saying that I understood he had put it all over So-and-So in a recent game. Then he wanted to tell me about it; and, that done, I told him how I had beat the champion of a small Catskill Mountain town, detailing the chances I had taken in leading him into a false move, and how he unwittingly fell into my trap. My subject's expression became animated; he was following every detail of the game. He appeared to me as another person, his very soul shining through his face. He was so taken up with my story that he did not notice the changing of plate holders and the exposure being made. Business was forgotten, pictures were forgotten, we were both riding his one great hobby, his pastime. Before he left he had entirely forgotten being bored during the first part of the operations, for he shook hands and assured me that it was the first time he had ever enjoyed having his picture taken.

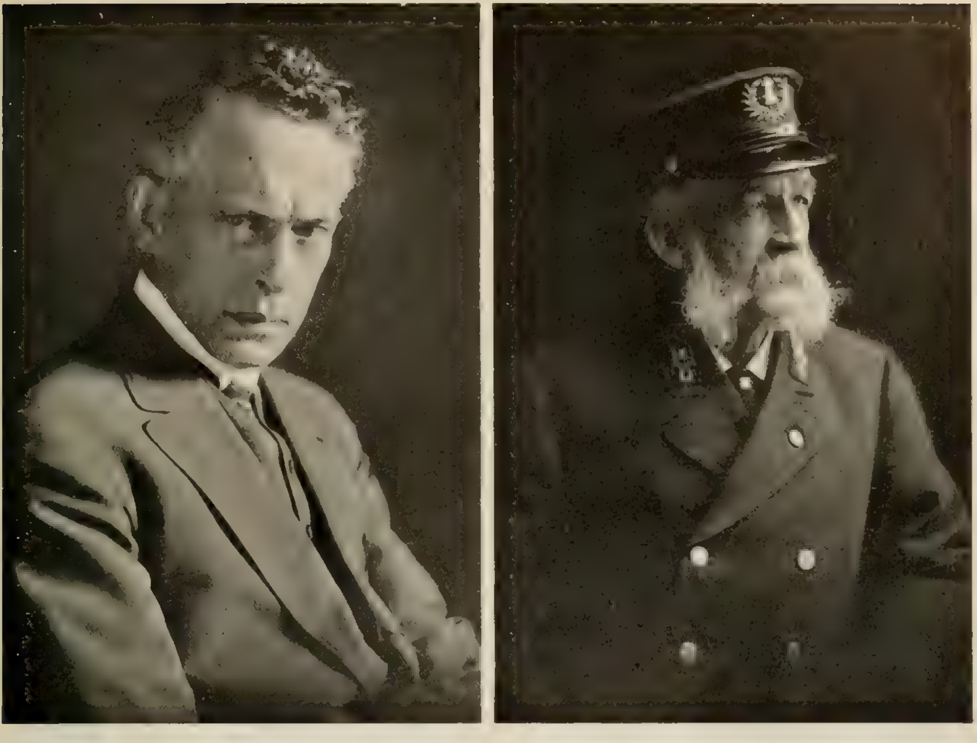
The right chord had been struck and I had secured a picture that portrayed him as he appeared to his family during the evening hours when business cares were thrown aside; when his careworn business expression was replaced by one that is better known to his immediate family, the expression more fittingly worn by one enjoying the companionship of his loved wife and children.

Personality is a subject of vital importance. The photographer is too apt to put his own personality into his work, while overlooking the personality of his sitter. It is not the object of this article to discourage the young photographer, to whom these thoughts are directed, from striving to develop his artistic ability or to reach the enviable heights that have been gained by the headliners in our profession; for those heights are achieved, in part, by the exercising of the personality of the photographer himself.

Some of the leading workers of this country have instilled their own personality into their work so thoroughly that the average photographer can recognize the maker at first glance, but when one is accepting the hard-earned dollars of a patron, it should be remembered that, as a rule, that patron knows nothing and cares less about art. That patron wants something that will appeal to his friends, and those friends will judge the work by the amount of the sitter's personality shown in the photograph, not by the display of one's ability as an artist. Had photographer G——— made two or three negatives of Laura just as she was when she first went to the studio, working to catch the personality of his subject in those negatives, what comfort the picture would have been to the friends and parents.

Mr. H———, as a business man, displays, outside of his home, a strong business personality; but with an unbusinesslike idea, he thought, and so did his family, that he could only get the best in a large city. Possibly he had been impressed with that thought by the method referred to in my previous article, "Wake Up." Those Fifth Avenue men had no doubt done good work, but the personality they strove for was the wrong one, the one he carried with him about his business; and, having his picture taken, was to him simply another business proposition. His other personality, the one best known to his family and friends, was what was wanted. To get this, they had to fall back upon the little fellow, in their own little town, who gave them just what they wanted.

It should be one's aim to keep in touch with his fellow townsmen, to learn as much as possible about their likes and dislikes, their hobbies, etc. So doing, one will be prepared to deal with them when they pay his studio a visit. One must not let his conversation with the sitter be the chatter of the monkey, but rather let it be to the point with pleasant dignity. One



TWO PORTRAITS THAT EXPRESS PERSONALITY

should avoid any remark that would appear in the least rude or improper; encouraging the sitter to do the most of the talking. One must be an interested listener, ever watchful of the varying moods, facial expressions and attitudes assumed during the conversation. A display of one's ability, one's personality as an artist, will no doubt be admired; but if the personality of the subject be secured in the portrait, the work will not only be admired but valued, with the gratifying result that one's popularity and business will steadily increase.

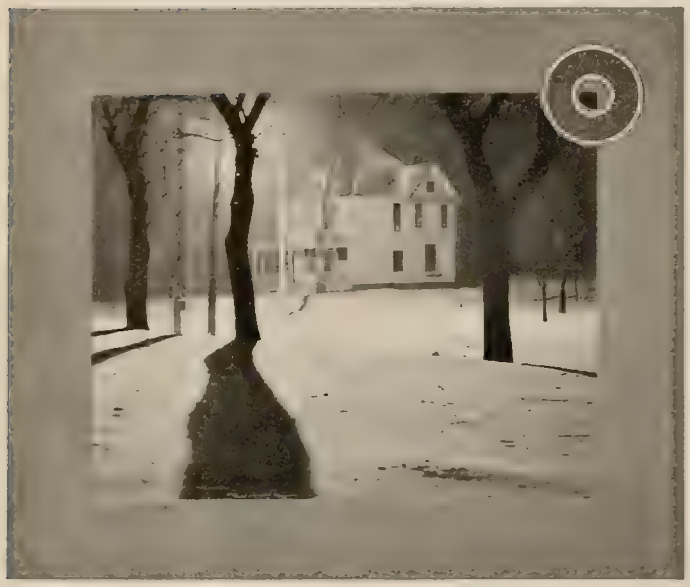
Progress

Again it is a general rule that all the arts and sciences advance together; but this is not without many exceptions. These are not so apparent in the early stages of human progress as in later times. Homer lived and sung when the arts were unborn, or at least in their infancy. The Roman civilization, though advanced in some of the sciences, produced no art except architecture worthy of the name; and in the literary age of Shakespeare and his contemporaries, there was no corresponding sculptor produced in England. In our own time and country, the civilization is extensive and wholesome; the sciences and the more matter of fact industries are well developed; but as an offset to them the arts, with some brilliant exceptions, are flippant—witness the poetry, novels, pictures, plays, operas, decorations.—John C. Van Dyke.

Night Photography

By L. N. Searles, I. P. A. 3554

With Illustrations by the Author



ARC LAMP ILLUMINATION—Seed 30 plate, f-6.3, five minutes' exposure

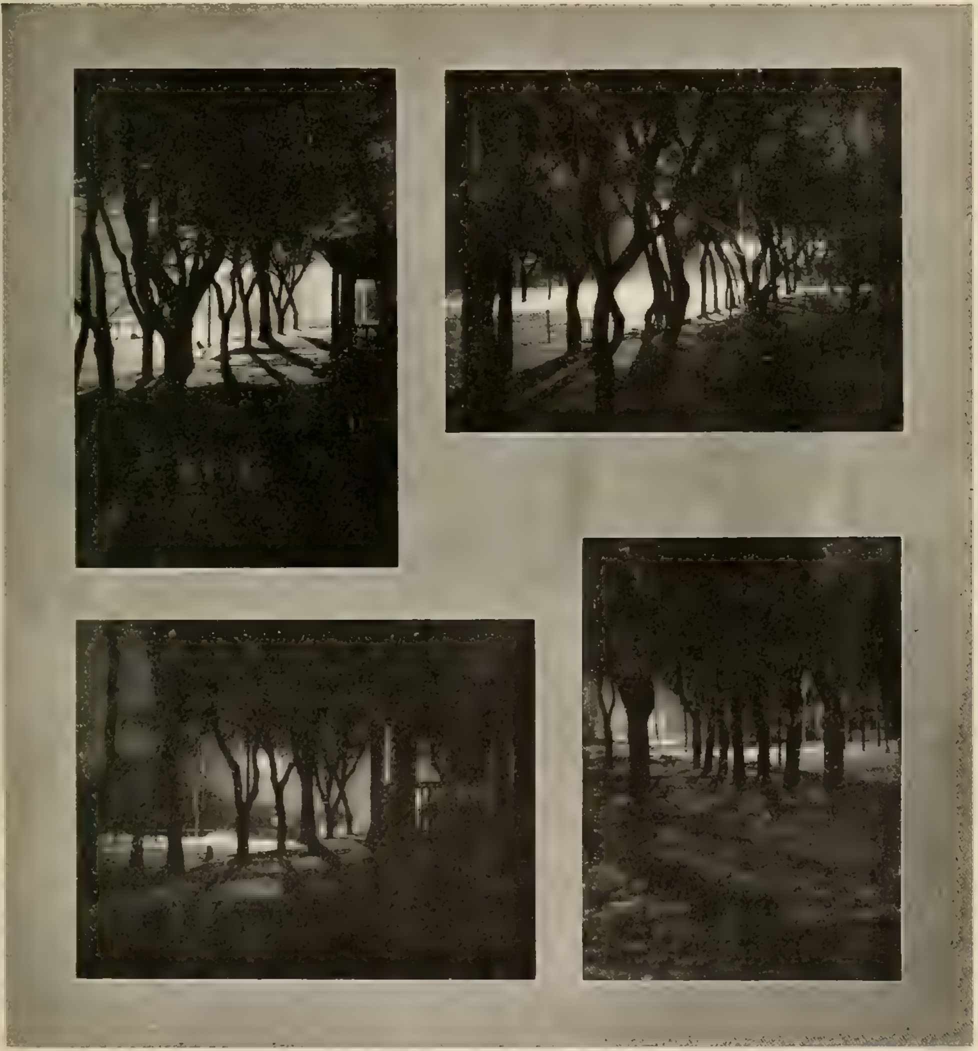
NE of the most novel and interesting branches of amateur photography is the portrayal of out-door scenes at night. A great many amateurs, like myself, have most of their daylight hours taken up by their occupation, and for that reason night photography should appeal to a large number much as it has to me. Another reason for its strong appeal lies in the great variety of interesting effects which can be obtained. Among them are photography actually taken by moonlight, street scenes in which the lights themselves are the most prominent features, and those in which the source of illumination is hidden behind some object in the picture and in some cases not included in the view. It is on the making of the latter class that Mr. Clute has asked me to write a few words, telling just how they are made, for the benefit of other readers.

The equipment need not be an expensive one; a good camera of the folding type having a ground glass for composing the view, one that can be used mounted on a tripod, ought to produce good results in the hands of the earnest worker if a little patience, skill and knowledge are employed.

The advantage of hiding the source of illumination behind some object in the picture lies in the elimination of all danger of halo or halation. By employing the ground glass, one can compose some very pleasing pictures, while the trees, together with the long shadows cast by them, produce weird effects, as shown in the illustrations herewith. These long shadows, rightly placed, tend to lead the eye into the picture, thereby adding to its pictorial quality.

One should use the largest stop possible, and a fast plate or film; these will help materially to cut down the exposure. The exposure required will range from five to twenty minutes, depending upon the strength of the light, speed of the film or plate, and the size of the stop used. The illustrations accompanying this article were all taken with a lens working at f-6.3. The exposure required for f-8, the speed of most rapid rectilinear lenses, is about one-half more than for f-6.3. The data accompanying each illustration will give a basis upon which one can determine the amount of exposure required.

The upper left-hand picture in the group of four was made with a 3A Kodak, the other four shown with a 3A Film Plate Premo. A Zeiss Kodak lens was used for all, pyro developer for the plates and M-Q developer for the paper, the latter being Special Portrait Kruxo, soft. The upper right-hand and the lower left-hand pictures in the group of four, together with the initial



ARC LAMP—Seed 30 plate, f-6.3, seven minutes exposure

ARC LAMP—Seed 30 plate, f-6.3, seven minutes exposure

ARC LAMP—Seed 30 plate, f-6.3, six minutes exposure

100-WATT TUNGSTEN—Seed 30 plate, f-6.3, five minutes exposure picture, were taken during a light fall of snow, snow or water on the ground adding materially to the effect.

I am sure that any amateur who once attempts night photography will find it a pleasing pastime, especially if his time is limited during the daylight hours as is the case with me. And furthermore, should he persist sufficiently to overcome the few small difficulties that attend the taking up of any new line, his resultant prints will be classed among his most interesting pictures.

Advantages of the Short-Focus Anastigmat

By Charles F. Rice

With Illustrations by the Author

When I used to sally forth with my 5x7 camera, I carried with me a whole battery of lenses, by various combinations of which I could get any focal length I wanted, within an inch or so, from five and one-half to seventeen inches. Most of my time on these excursions was occupied in trying the effect of first one lens then another. My problem was to fill the plate with that part of the view which I judged the finished print should contain, no more, no less. You see, I did my "trimming" before the exposure was made.

Contact prints were the only kind I produced in those days. Later, I became interested in the idea of taking my pictures very small, and then enlarging from the small negatives to any size desired.

Some Camera Craft readers know that I am very keenly enthusiastic on the subject of miniature cameras. My use of miniature cameras introduced me to the wonderful capabilities of the short-focus anastigmat. It taught me that a three-inch anastigmat of a certain type is much more capable than a seven-inch lens of the same type. The three-inch lens has greater depth and greater speed at the same relative opening; and being naturally used on a much smaller and more conveniently handled camera, it can be employed on occasions and in situations where the longer-focus lens with its bulkier camera would not be available.

Formerly I had used a seven-inch anastigmat interchangeably on three different cameras, 4x5, 5x7 and 8x10. This lens embraced a rather narrow angle on a 4x5 plate, a medium angle on the 5x7, and a wide angle on the 8x10. The same thing I have now accomplished with the three-inch lens by using it on a 3¼x4¼ camera, where it embraces practically the same angle on the full 3¼x4¼ that the seven-inch lens included on an 8x10. It will thus be seen that every picture taken with the three-inch lens on a 3¼x4¼ plate is a wide-angle picture. Sometimes the real picture occupies only a small part of the plate. An enlargement of that part is then made to any desirable size, usually 5x7 in my case, and the result is the same as a 5x7 contact print from a negative made with a lens of medium or long focus, according to the degree of enlargement.

Let us see how this works out in actual practice. Perhaps words will be saved and the explanation will be as clear if I call attention to the accompanying illustrations.

Fig. 1 shows the exterior of a church building. The position of the camera was at the point farthest away from the building where an unobstructed view could be obtained, on account of surrounding trees and shrubbery. Still it was so near as to call for a wide-angle lens. An 8x10 enlargement from this negative gives the same effect as would be obtained in an 8x10 contact print from a negative made with a seven-inch lens. This illustration calls for no particular comment. It is straight wide-angle work.

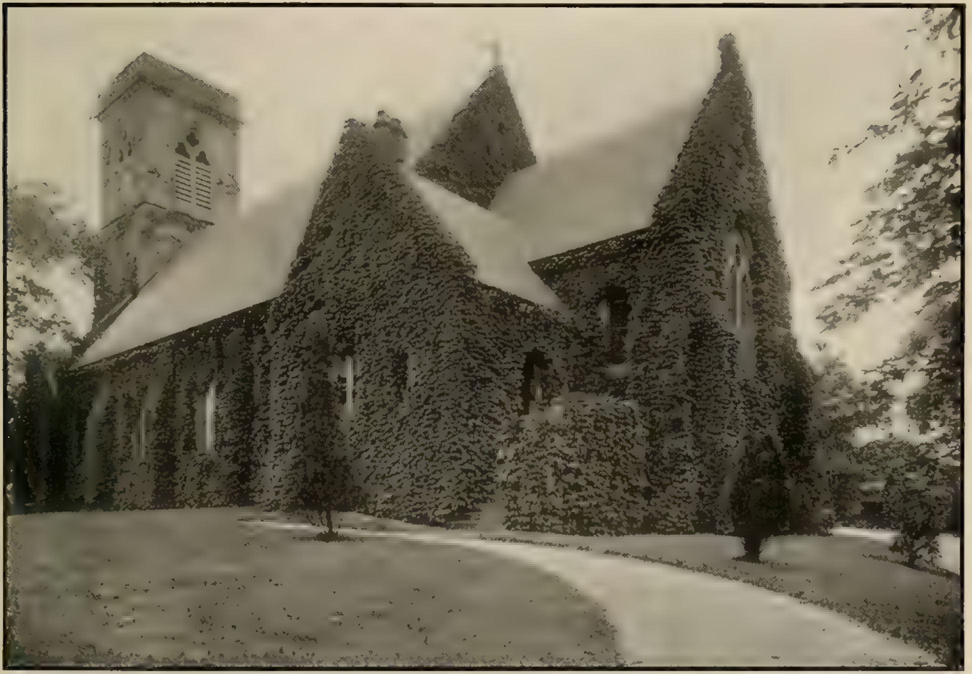


FIG. 1: EXTERIOR OF A CHURCH BUILDING

Fig. 2 is a near view of the altar and surroundings. In this picture the perspective is somewhat violent, which is a characteristic of wide-angle interior views; but the camera could not be moved farther away without the altar rail's cutting off the bottom of the picture. This particular picture demonstrated to me very graphically an advantage of the short-focus lens of which I had never heard or read. I had previously made a picture from the same viewpoint with the seven-inch lens on an 8x10 plate. When I compared this with the 3¼x4¼ negative made with a three-inch lens, I noted that the shorter-focus lens had included a wider angle. It appeared that the two lenses, seven-inch and three-inch, included practically the same angle on the 8x10 and 3¼x4¼ plate, respect-

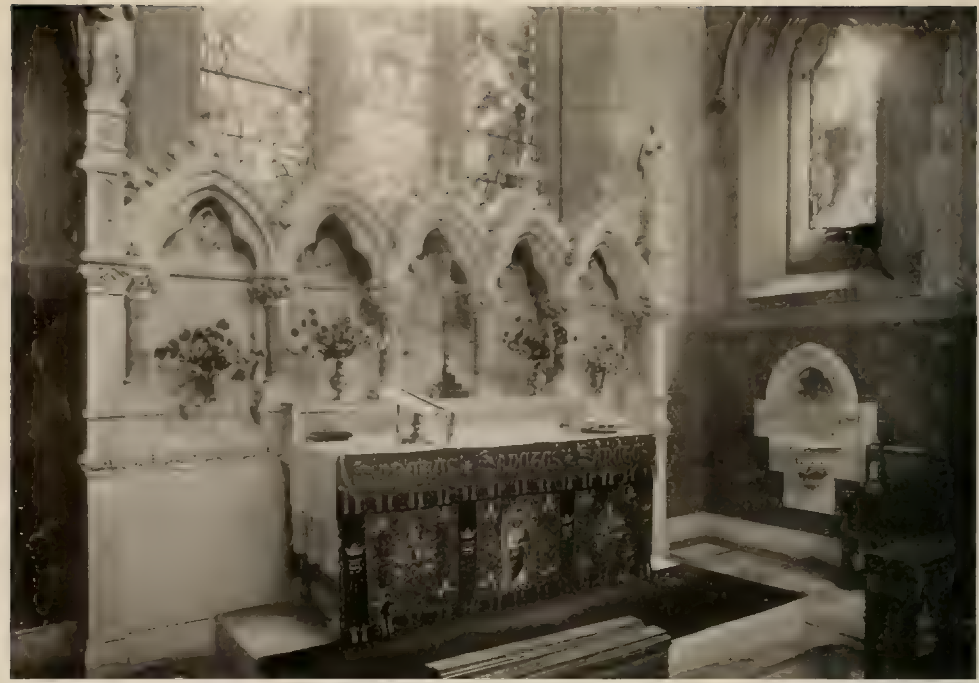


FIG. 2: NEAR VIEW OF ALTAR AND SURROUNDINGS

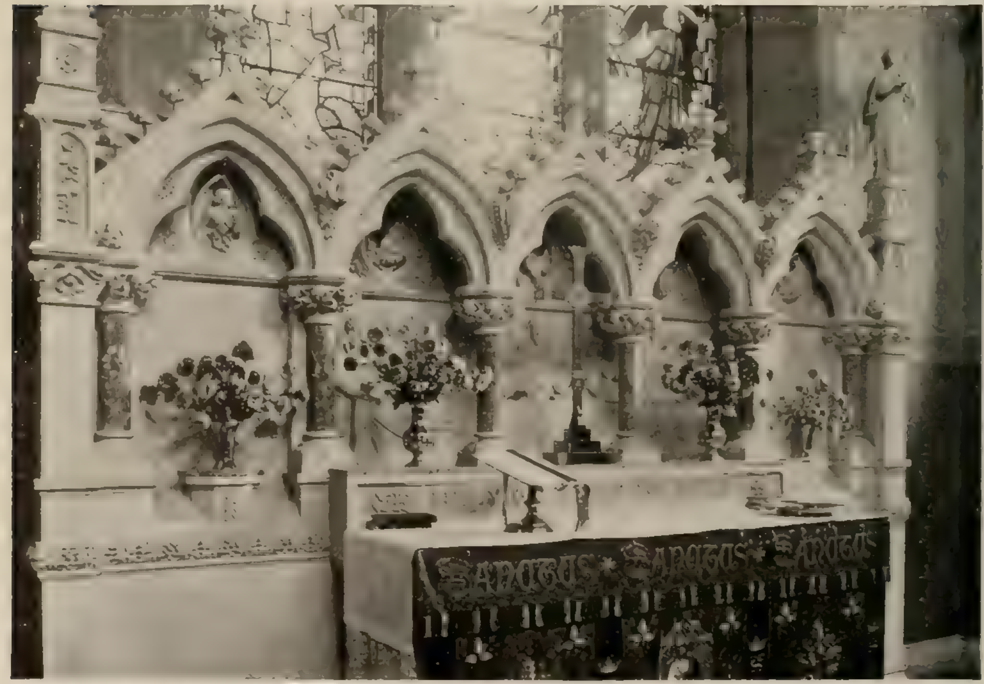


FIG. 2-A: ENLARGEMENT OF A PART OF FIG. 2

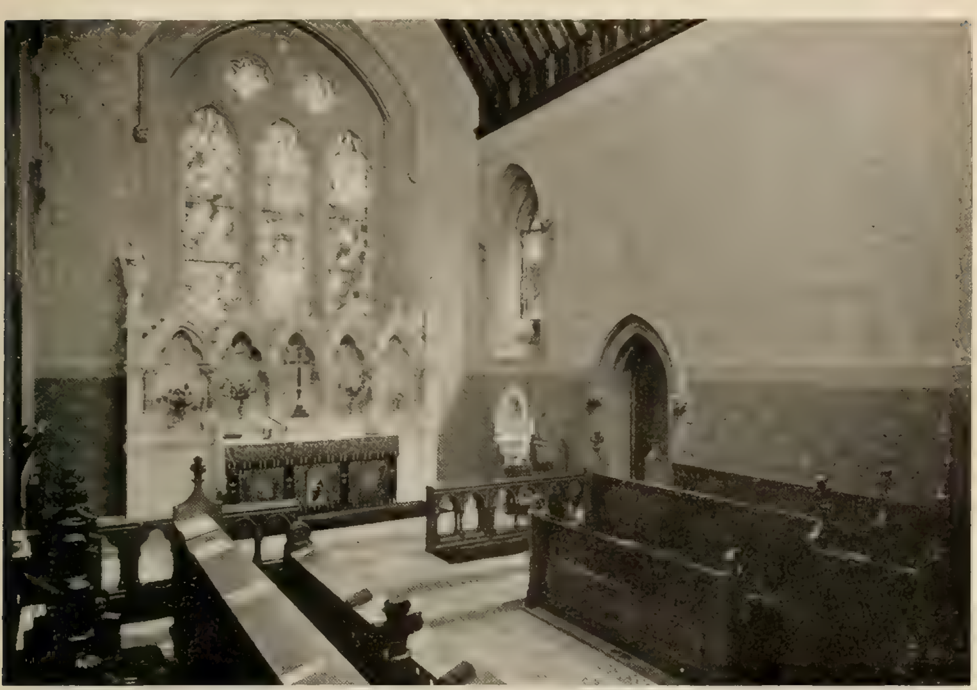


FIG. 3: WIDE-ANGLE VIEW OF CHANCEL FROM PULPIT

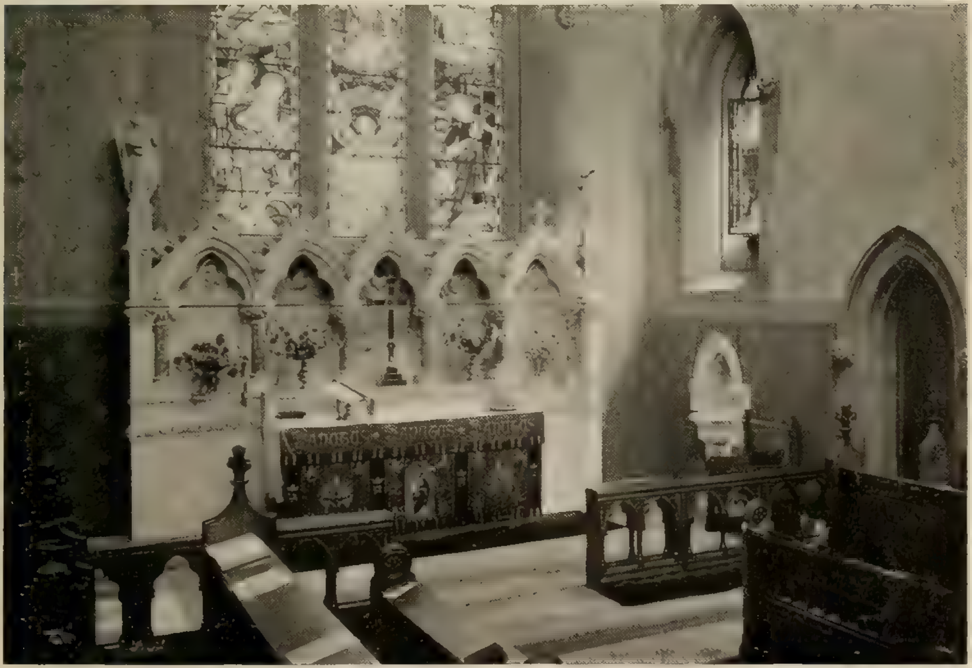


FIG. 3-A: ENLARGEMENT OF PORTION OF FIG. 3

ively, when focused at infinity; but when focused on a nearer object, a wider angle was included by the three-inch lens! Why? I can't explain fully, but it is because the three-inch lens does not have to be advanced so far in proportion to its focal length as the seven-inch lens to be in focus for a near object. This is a very important advantage of the short-focus lens, particularly for wide-angle interior views. And it is this same property of the short-focus lens that enables it to give a greater depth of field than the long-focus lens.

An 8x10 enlargement from this small negative gives the effect of an 8x10 contact print from a negative made, not with a seven-inch lens, therefore, but with about a six and one-half inch lens, which is an extreme angle.

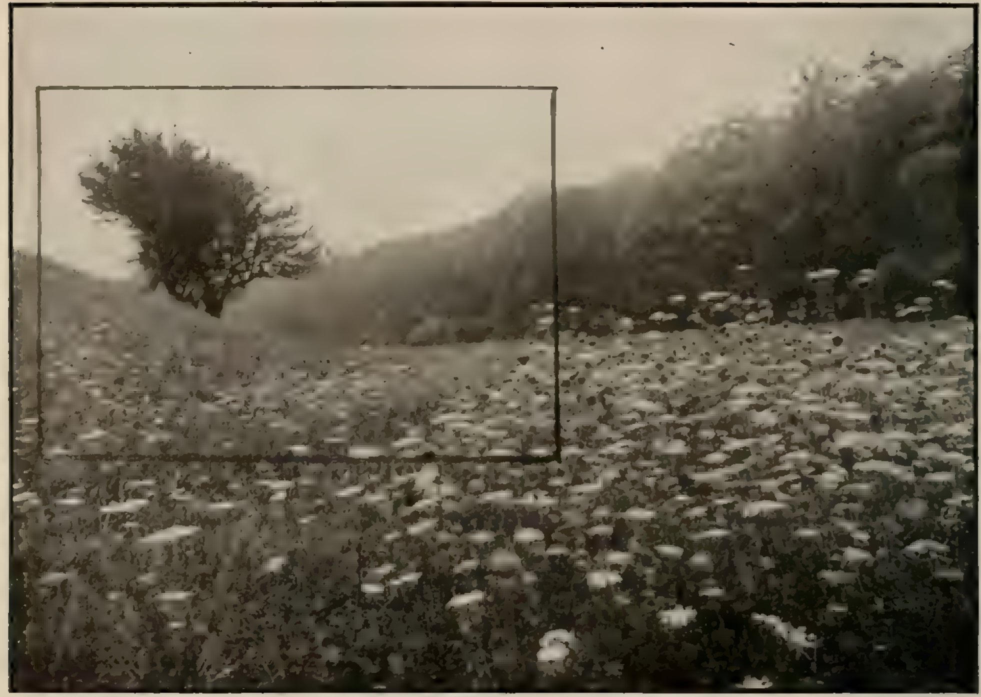


FIG. 4: SHOWING EFFECTIVENESS OF A WIDE-ANGLE LANDSCAPE

Fig. 2-A is an enlargement of a part of Fig. 2, showing a detail view of the reredos, and giving the same effect as a contact print from a negative embracing a normal angle; and while the reproduction may not show it, I will leave it to the Editor if the quality is not in all respects at least equal to a first-class contact print.

Fig. 3, taken from the pulpit, is a wide-angle view of the chancel. It could not have been taken at all, from that point of view, with a large camera; the only place where a tripod could stand is around a corner shutting off a part of the view of the chancel. But I was able to balance the little 3¼x4¼ camera on the shade of the pulpit lamp, with the result shown.

Fig. 3-A is a further enlarged portion of Fig. 3, and shows the altar, etc., in still better perspective and with the altar rail better placed, than Fig. 2. It embraces a normal angle. I repeat here, by way of emphasis, that this could only be taken with a small, light camera.

We will now leave the church, and go out into the open country. Wide-angle landscapes? Yes, why not?

Fig. 4 is a wide-angle landscape, and it looks presentable to me. It could not be taken effectively with a normal-angle lens, as I have attempted to show by the small rectangle marked on the print, which embraces what is generally considered a medium angle, about what an eight-inch lens would include on a 5x7 plate.

Fig. 5 is another wide-angle landscape. No narrow angle would have shown the "lay of the land" as this does. Figs. 5-A, B, C and D, each a complete picture in itself, are enlarged portions of Fig. 5. They show the possibility of getting more than one picture with a single exposure, frequently true of wide-angle landscapes. There were five different views on this one plate.

It may be of interest to mention that these pictures were taken on 3¼x4¼ Cramer Instantaneous Iso plates, double-coated. The lens was a Goerz Dagor of three inches focus. The prints are all enlargements on various grades of Cyko.

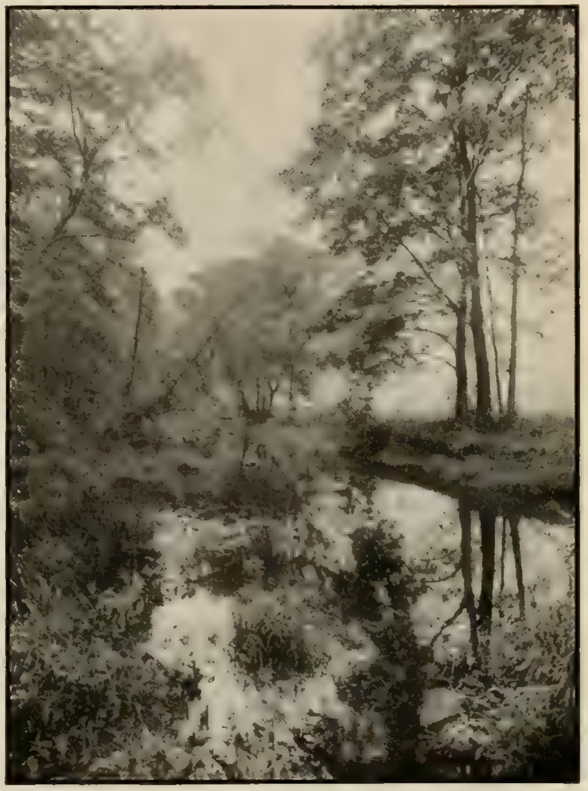


FIG. 5: ANOTHER WIDE-ANGLE LANDSCAPE

I know there are many photographers, notably pictorial workers, who advocate fitting a camera with a longer focus lens than the regular equipment supplies, for the sake of obtaining better perspective. For instance, if you buy a 3¼x4¼ camera complete, with lens, shutter, etc., the lens generally fitted is between four and three-fourths and five and one-half inches focal length. The pictorial workers aforesaid would consider this entirely too short, and would advise perhaps an eight or ten-inch lens for that size camera. Yet I submit that it is better to have a lens that will include all you ever want to get on the plate at one time than to have your lens include such a narrow angle as to positively prevent you from attempting many subjects. There is another method, which I described in the first paragraph, of working with lenses of various foci. I have tried that, and I speak from experience in saying that the same or better results can be secured by taking all pictures with one lens of short focus, including a wide angle on the plate used. Then, in cases where the real picture is contained in a small part of the negative, that part can be enlarged to any size desired.

Anastigmat lenses are the only kind I would recommend. This is no place for a lengthy dissertation on the advantages of the anastigmat, but this I will say: anything that the ordinary rectilinear will do can be done better by the anastigmat, and there are things the anastigmat will do that the less efficient lenses cannot touch at all. Then, again, there are anastigmats and anastigmats. For all-around photography, the best and most efficient is the form of which the Goerz Dagor is typical, working at or about f-6.8, which is fast enough for almost anything; and of compact construction, which allows its use in wide-angle work.

I have said nothing about portraits. That is one branch of photography in which the wide-angle lens does not enter. But, although it is another story, perhaps the Editor will allow me to say, incidentally, that I believe fully in the same method of procedure as applied to portraits, that is, taking the picture in small size with a comparatively short-focus lens, and making the finished print by enlarging from the whole or a part only of the negative. For portraits I use a four and three-fourths inch lens working at f-4.5.

With these two lenses, a three and a four and three-fourths inch, I do all sorts of photographic work; by choice, not from necessity, for I have lenses of longer focus. And I firmly believe that short-focus anastigmat lenses will come into more general use when photographers come to realize their positive advantages.

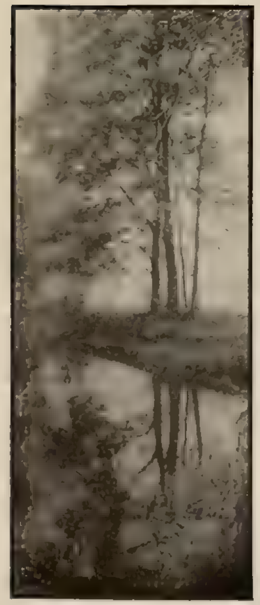


FIG. 5-A

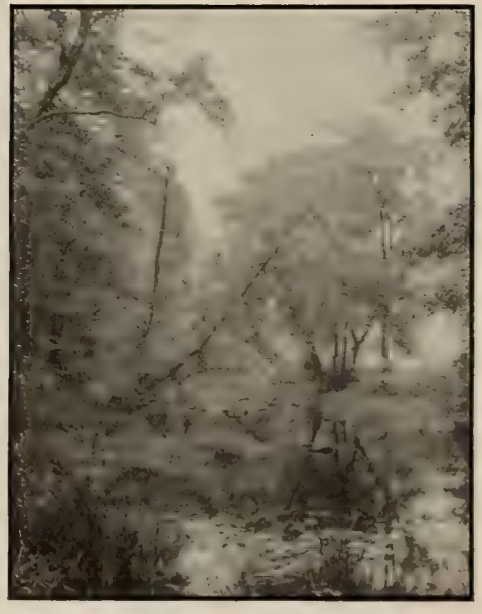


FIG. 5-B

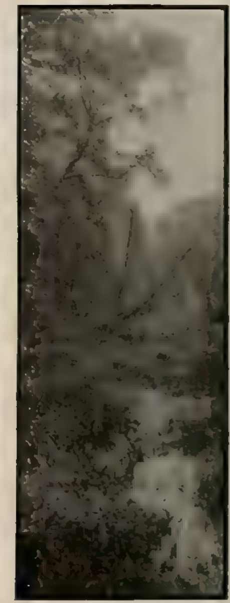
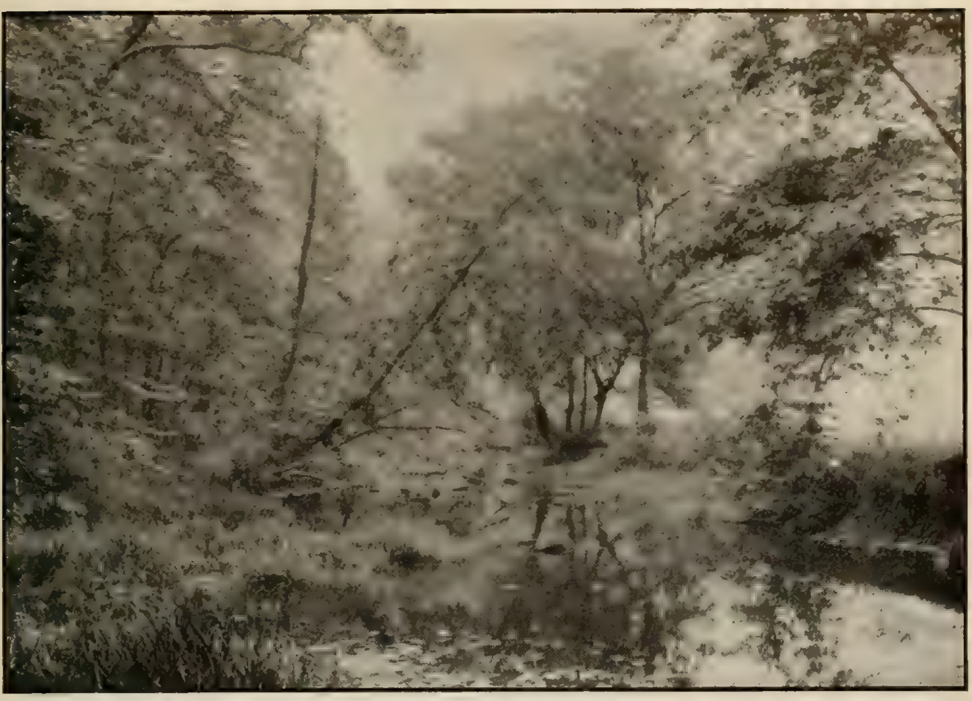


FIG. 5-C



PERHAPS THE MOST PLEASING PORTION OF FIG. 5

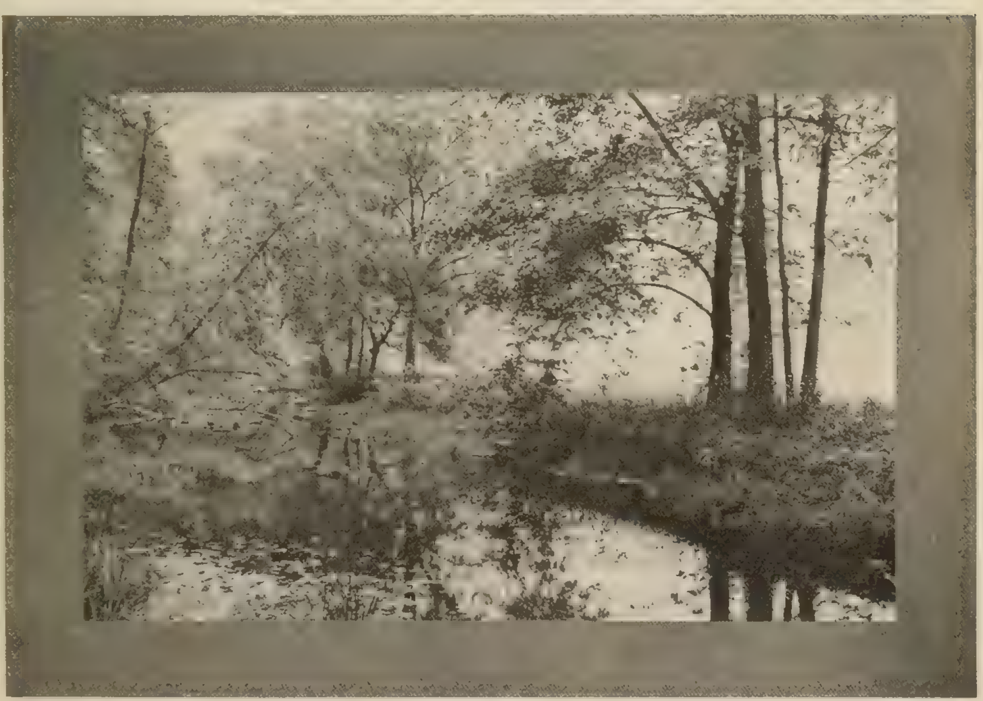


FIG. 5-D: ANOTHER ENLARGED PORTION OF FIG. 5

Making the Camera Pay

By Ernest F. Lowrie

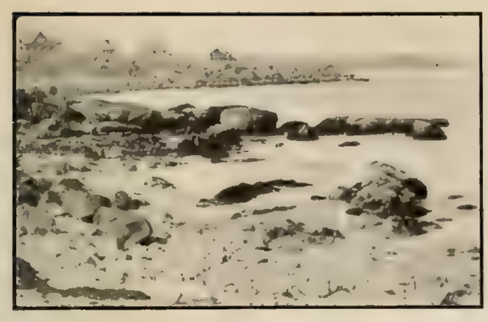
With Illustrations by the Author

About two years ago I began to realize that if I wished to continue the use of my camera, I must find some means of profit thereby, in order to purchase material and supplies without the necessity of drawing on my salary to do so. Every amateur who is dependent upon the work of his hands for a livelihood will agree with me, I believe, that if his enthusiasm in his camera work is at all active, the buying of the necessary material is a serious drain upon his purse.

To meet this condition, I called upon a friendly suburban druggist who carries a line of films and papers, one who did not, at that time, solicit any work in the developing and printing line, and offered him twenty-five per cent commission on all such work that he could turn over to me. I had a neat little window card made, one about two feet long, reading "Developing and Printing" at the top, with the lower half blank for the placing thereon of the regulation telegraphic baseball scores which the druggist furnished the public daily. The business that resulted netted me an average of about six dollars per week from June to October and about two dollars per week during the remainder of the year. I personally solicited the business of those I came in contact with and whom I thought might be using a camera; and, with the work from the druggist, I averaged about ten dollars weekly from June to October, and four dollars the rest of the year. This amount amply covered all my expenditures for supplies for my personal use.

A little later, in talking with another local merchant, he suggested my making some post cards and allowing him to try them out at five cents each. I furnished him with about twenty good local subjects, but they proved very slow sellers. About that time I happened to run across an advertisement in CAMERA CRAFT of a firm that would make one thousand cards of ten different subjects for ten dollars. Talking the matter of the slow sales over with the merchant, he agreed that the trouble lay not with the cards or subject, but with the price; and that, providing I could get them out at a figure that would permit him to retail them at two for five cents, he would try two thousand. Getting together some sixty-five of my best local negatives, I made good, clean, new prints, mounted them in an album and started out to call on the other local dealers and summer hotel keepers.

From June sixteenth to September first I sold over sixteen thousand of these cards at one dollar and fifty cents per hundred, netting me over eighty-two dollars, the only expense being the cost of making the sample prints. I do



BASS ROCKS—GLOUCESTER, MASSACHUSETTS
NUN'S ROCK—BASS ROCKS, GLOUCESTER

THE SURF AT BASS ROCKS
PARSON'S LEDGE—BASS ROCKS

not figure the cost of the negatives, as they were all old ones, stored away, originally made for my own pleasure. I have read various articles in magazines in which one was cautioned regarding the selling of his work at too low

THE WATER FRONT—GLOUCESTER
UNION CHURCH—MAGNOLIA, MASSACHUSETTS

ANNISQUAM LIGHT—GLOUCESTER
WHARF SCENE—GLOUCESTER

a figure, but my short experience has taught me that cards will sell at two for five cents where they will not move at five cents each.

An illustration of the ill effect of trying to maintain the five-cent price of photographic post cards came under my notice last spring. A summer hotel man whom I approached told me that three summers before he had engaged a local photographer to take about a dozen views of his hotel and surroundings and make up five hundred cards, these being put on sale in his hotel at five cents each. At the time I talked over the matter with him he still had about two hundred of these cards on his hands. However, he finally consented to give me an order for four hundred cards on condition that I take back all unsold cards at the end of the season. This agreement, by the way, was made only with this one customer, as it was not found necessary with the rest of the trade. I supplied him with the four hundred cards, and they were placed on sale at two for five cents, with the result that he sold over two thousand cards before he closed the season, the others he cleaned up by mixing them in with my cards and selling them at the lower price. This seems to me to be pretty conclusive evidence that, as a selling argument, two for five cents is better than five cents each, providing the real printing of the cards is entrusted to someone who does large quantities and therefore has all the facilities for turning them out at a lower price than is possible as the product of one's own labor.

This Coast country here enjoys the full brunt of the Atlantic Ocean, with the consequence that there are some grand opportunities for surf scenes, pictures that I found to be the best sellers. Others that I used were hotel and wharf views, vessels, lighthouses, in fact, anything of particular interest to the stranger in our city. Public buildings were an exception, as these had been too fully exploited in the printed cards. I can see no reason why any amateur cannot work up a profitable side line in this manner, the cost of making the negatives and one print from each representing about the only outlay; and, of course, the negatives can be used year after year.

One has, with such a line, a decided advantage over the printed card men, owing to the fact that he can do business on an order for as few as one hundred cards of a subject; whereas the printed card has to be purchased in lots of a thousand or more to be profitable, and besides, for that reason, the views cannot be changed very often.

I have made no mention of the pleasure derived from little journeys with the wife and kiddies in search of new subjects for the cards to be used this summer, although I figure that these enjoyable trips profit me more than the sale of any quantity of cards. Making these negatives has furnished me with an object for these trips, trips that have resulted in some two hundred more subjects being added to my stock. On long trips I use a 3-A Kodak and on shorter ones a 5x7 view camera. My lens, being a Turner-Reich anastigmat working at f-6.8, is adapted to use on either.

Greatness is not an element in itself. It is but the composite result of many little things extremely well done and well put together.—N. C. Fowler, Jr.

Photographers' Association of California

At the last regular meeting of the Photographers' Association of California it was moved, seconded and carried that F. A. Webster be appointed chairman of a committee of five, the other four to be selected by him, to be known as the National Convention Committee; this committee to have full power to act in the matter of securing, if possible, the holding of the Thirty-fifth Annual Convention of the Photographers' Association of America in San Francisco in 1915, and as a part of such work, appoint delegates to present the claims of San Francisco at the next coming National Convention at Atlanta.

This committee, as appointed, consists of F. A. Webster, Chairman; George G. Fraser, Secretary, and Fayette J. Clute, Assistant Secretary; Otto Boye and R. P. Whigham making up the five. In addition to other activities, this committee has gotten out a letter, as below, a copy going to every photographer in the State whose name and address could be obtained. With these letters went a card, to facilitate replies, this carrying blank lines for the names and addresses of other photographers who should be interested. The returned cards have, even at this early date, been reaching Secretary Fraser with such

Photographers' Association of California Convention Committee

F. A. WEBSTER, CHAIRMAN, 517 FOURTEENTH ST., OAKLAND

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OFFICE OF THE SECRETARY

GEORGE G. FRASER, 116 GEARY ST., SAN FRANCISCO

April 30th, 1914.

My dear Sir:

The Photographers' Association of California, while still maintained, with a small membership and a small surplus in the treasury, has not felt that the holding of a State Convention has been desirable during the past few years. The strong attraction that is presented by the Panama-Pacific Exposition, coupled with the half-fare rate that will be in force, offers our Association an exceptional opportunity to make a bid for the 1915 Convention of the National Association, by presenting the claims of San Francisco at the Atlanta Convention in June.

You can realize what a benefit it will be to us all to secure the educational and inspiring effect of the National Convention on this Coast; and this is doubtless the best opportunity we will ever have of putting forth our claims with enough force to overcome the heavy handicap which the long distance from the East imposes upon us.

In order to make a proper and effective presentation of our claims for the National Convention in 1915, it is imperative that we go before the coming Convention at Atlanta with a showing of a large State

Association as a guarantee that the photographers of the Coast are in accord on the question and willing to do their part in making a National Convention in San Francisco in 1915 a great success.

Will you kindly signify at once your willingness to become a member of the Photographers' Association of California by filling out the enclosed card and mailing it to me promptly? Mail the card back to me in any case, as I must know just where we stand. Also, give me as many names and addresses of professionals as you can, as we want to reach every one of them on the Pacific Coast.

Should you contemplate visiting the National Convention at Atlanta in June, kindly advise so that arrangements can be made for you to co-operate with our committee while there.

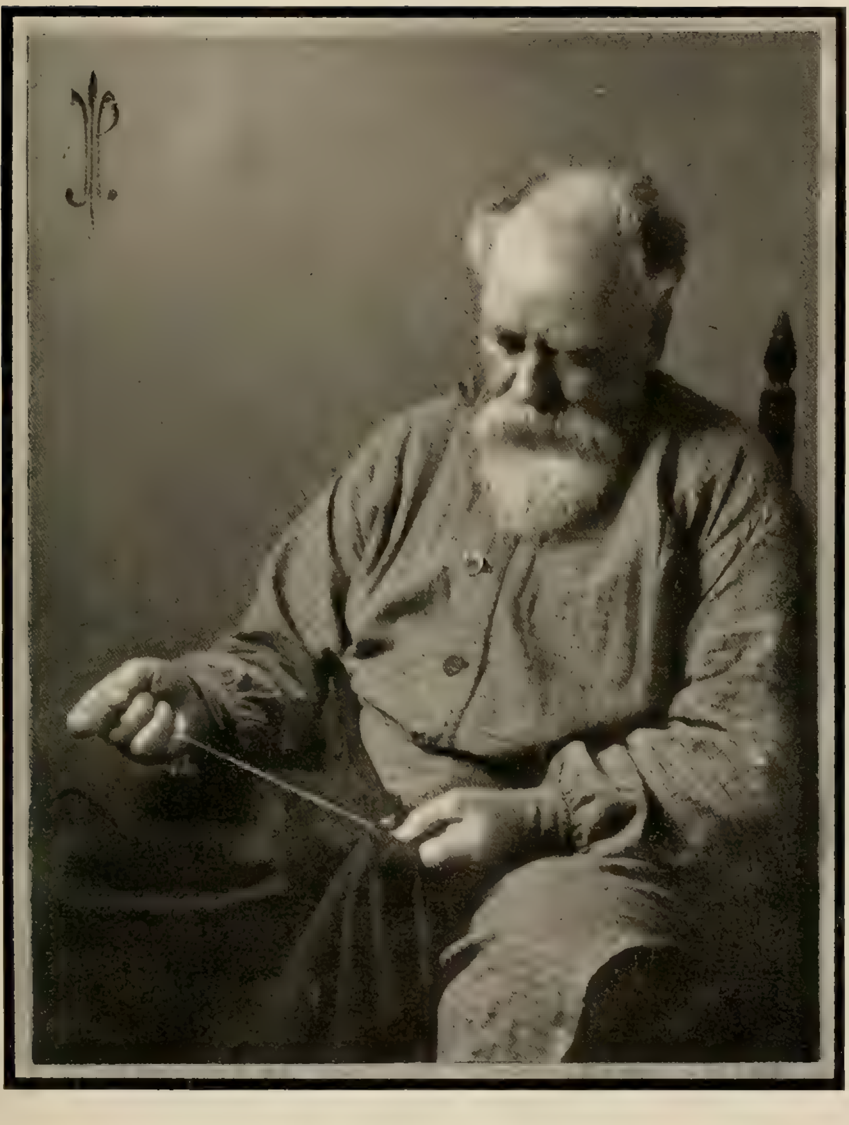
Most cordially,
(Signed) Geo. G. Fraser, Secretary
Convention Committee, P. A. of C.

prompt and encouraging assurance of co-operation and enthusiasm that the outlook for a most gratifying consummation of the committee's plans is all and more than can be expected at this stage of their work. Several have indicated their intention of attending the Atlanta Convention and assurance has been received from a large number of Eastern photographers who will be in attendance that the weight of their influence will be cast with the San Francisco delegation.

Should this reach the eyes of any professional photographer in California who was not the recipient of one of the letters shown herewith, the committee would appreciate his kindness in at once sending his name and address and asking that one of the membership cards be sent. It is desired that the San Francisco delegation be able to go before the Atlanta Convention with the support of a State Association having a membership that represents practically every photographer in the State. California is well endowed with a large number of excellent photographers, and their progressive and enterprising spirit is shown by the eagerness with which they are accepting this opportunity to make a strong plea for the holding of the next following National Convention here on the Pacific Coast.

Art Demands Homage

A great work of art exacts a kind of reverence from all beholders. You cannot scoff at a masterpiece. If a touch of the divine has entered a bit of canvas, marble or wood, the world uncovers and becomes silent. This would be an awful test to apply to most of our statues, and yet you could no more take liberties with Rodin's "Saint John" or his head of Balzac than you could picture Angelo's "Moses" munching on an ear of green corn, or the Venus de Milo in hoop-skirts. Can you not, however, count many statues in New York which, through their mediocre commonplaceness, would be quite at home as soap advertisements. They excite in you the spirit of ridicule, and in ridiculing them there is no accompanying feeling that you have violated a profound or sacred conception.—Gutzon Borglum, in "The Craftsman."



A STITCH IN TIME
By J. WILL PALMER

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—The Editor.

USING A CIRCULAR WASHER: If you are using a circular washer for your prints and have trouble with a dead center, the prints bunching in the center and refusing to revolve, a tall, round glass bottle, not too large, filled with water to hold it down, placed in the center of the washer, will effectually remove the cause. A like bottle placed close to the group of overflow holes will also prevent the prints from stopping up these last and the consequent running over of the water at the top.—A. E. Davies, I. P. A. 3133.

TO HAVE CLEAN NEGATIVES: When damp, the emulsion surface of a negative, particularly a newly developed one, is very retentive of any sediment or dirt that may be held in suspension in the wash water. As most water contains some sediment, and a large amount is used in getting rid of the hypo, the surface of the negative, when dry, is often quite rough or dirty through this sediment being retained. If one will swab off the gelatine surface of his negative as it comes from the washing tank, a clean, smooth emulsion will result upon drying. Occasionally swabbing the surface in this manner during fixing will also materially assist in removing the hypo.—L. N. S., South Dakota.

PRINTING STEREOGRAMS: Stereo workers using printing-out paper will find a printing frame which has a longitudinally hinged back a great convenience. With this, both elements may be examined at one time and easily brought to the same density where the two negatives are unequal. Clouds or other desired features may be brought up by vignetting or other dodge, to the same extent in both prints. Two separate pieces of paper can be used without danger of shifting under examination, thus enabling one to utilize the good portions of "cabinet seconds." The back of the frame is so cut as to allow fully two-thirds of the entire print to be examined at once. These frames can be secured, 5x7 size, for one dollar each.—W. C. M., New Jersey.

AN INEXPENSIVE WASHING PAN: A very inexpensive pan for washing prints can be made as follows: Procure a milk pan about sixteen inches in diameter and five in depth. Around the brim, about three-fourths of an inch from the top, drill three-eighths inch holes at intervals of about two and one-half inches. These will let out the water, but prevent the prints from going over the top as would be the case if the holes were not there. If one large hole is drilled, the suction of the water passing out will cause the prints to collect at that point. By directing the current of water against the side of the pan, the prints will revolve and in this way wash thoroughly. I have found this an excellent washing pan and one that costs very little.—Wilford E. Jost, California.

SQUEEGEED PRINTS: I, at times, find a bunch of prints very difficult to squeegee into absolute contact with the ferrotype plates, the result being a print with an unsatisfactory, half-way gloss. To remedy this, I find if the print is first brushed over with a tepid, concentrated solution of gelatine and then immediately well squeegeed onto a clean, recently waxed plate, when dry, the print will peel off with a smooth, high gloss.—M. R. R., Wisconsin.

WAXING SOLUTION: The last issue of "Portrait" contains the formula for a waxing solution that I have just tried with the most satisfactory results. It reads as follows:

Spirits of turpentine	20 ounces
Benzine	10 ounces
Oil of poppy	5 drams
Oil of cloves	2 drams

Apply with a tuft of cotton and then rub off dry with a soft cloth. This waxing solution does not give as much gloss as some of those recommended in the books, solutions that give too much gloss to suit me. However, it brightens up the shadows and gives a most pleasing effect to the surface of the print.—W. B. N., Colorado.

LENGTHENING THE LIFE OF A MAZDA LAMP: Workers using a Mazda burner for enlarging purposes are frequently annoyed by having the light burn out, possibly through careless handling, sooner than it should in the natural course of events. A lamp so injured may generally be repaired by screwing it into a drop cord socket, turning on the current and then gently tapping the globe as it is held and slowly turned in a horizontal position. As the lamp is turned, the broken filament will cross over another or unbroken one and immediately weld itself thereon, making the lamp as serviceable as ever except for the small length of filament lost in the mending process.—W. Clyde Cook, Tennessee.

MAKING PHOTOGRAPHS TRANSPARENT: Photographs may be rendered transparent for mounting on glass by immersing them in a mixture of four parts of paraffine and one part of linseed oil. The bath should be warmed to about one hundred and seventy-six degrees Fahrenheit, using a water bath only. After immersion, the photographs should be dried between blotting paper. To fasten these photographs to glass, add to ordinary glue, one-fourth of its weight of sugar, and apply.—E. I. Titlow, C. C. C.

A TRIPOD TRUCK: The readers of this department are probably all familiar with the device known as a tripod truck, put out by some of the manufacturers and sold for one dollar. One such as I have made for my own use can be constructed in a couple of hours at most and at little or no cost. I cut three strips of wood, seven-eighths inch thick, one inch wide and thirty inches long.

The exact length must be determined by each individual for himself according to the height he wishes his camera when set upon the tripod. The longer the strips, the wider apart the tripod legs and of course the lower the camera. These strips were nailed together in the form of a triangle and a small caster placed at each corner. Of course, if one wishes to have a very neat job, he can mortise them together at the corners and produce a nicer appearing result; but, since utility and not appearance was the main thing I desired, I merely nailed them roughly together. Holes, at the right angle to receive the metal points at the ends of the tripod legs, were bored in each corner. This truck is just the thing for such work as interiors, copying, and where slippery floors might cause trouble.—Paul Vernon, Illinois.

THE FOCUSING POINT: The worker with a camera is often confronted with the problem of using as large a stop as possible in order to shorten exposure or prevent the background from being obtrusive, while at the same time making sure that certain parts of the view come within the definition of sharp focus—having a circle of confusion of one one-hundredth of an inch, or less. In such cases the accompanying table, reproduced from a German text-book, will prove of assistance. The formula: (Two times far distance times near distance) divided by (far distance plus near distance), on which the table is based, may also be helpful. For example: The interior of a dimly lighted vault is to be photographed, perhaps by flashlight. The nearest point desired in focus, the edge of the door, may be five feet from the camera, while the most distant portion of the back wall lies at a distance of fifteen feet. All one need do is to consult the table, find that the seven and one-half feet is the point to be focused upon, swing the camera about or seek a well-lighted subject and focus it sharp at that distance with full open lens, afterward stopping down enough to bring into focus a printed card held at a distance of five feet, finally returning the camera to the subject to be photographed, the vault interior. Even with well-lighted subjects it is convenient to have this table, or the formula on which it is based, at hand. It is not hard to tell when any given object is sharp if the lens be well open, but when stopped down to bring certain near and far objects into focus, the securing of the desired sharp focus extending over just the parts wanted is frequently a difficult matter.—George H. Stipp, California.

Table of distances at which the given far and near distances are in sharp focus with a circle of confusion of 1/100 of an inch.

Distance of farthest point of object.

Distance of nearest point.	2	3	4	5	6	8	10	15	20	30	∞
2	2	2½	2¾	3	3	3¼	3¼	3½	3½	3¾	4
3		3	3½	3¾	4	4½	4½	5	5¼	5½	6
4			4	4½	4¾	5¼	5¾	6¼	6¾	7	8
5				5	5½	6	6¾	7½	8	8½	10
6					6	7	7½	8½	9¼	10	12
8						8	9	10½	11½	12½	16
10							10	12	13¼	15	20
15								15	17	20	30
20									20	24	40
30										40	60
∞											∞

Formula

$$\frac{2 \times \text{far distance} \times \text{near distance}}{\text{far distance} + \text{near distance}} =$$

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

Vol. XXI San Francisco, California, May, 1914 No. 5

The Case of the Professional

There is, on the part of many professional photographers, a marked tendency to blame their lack of success upon the fact that so many "amateurs," as they call them, are constantly pushing into the business. These constantly embarking venturers upon the sea of professional photography are poorly equipped, both in knowledge and capital; and, in their struggle to keep afloat, certainly do not improve conditions for the ones who have preceded them. While the situation is one that is hardly desirable, hardly conducive to the peace of mind of the photographer who feels that his working knowledge and suitable equipment alone should entitle him to a comfortable living, there is nothing to be gained by quarreling with a situation that, in the nature of things, must prevail in photography as it hardly does in any other craft or profession.

The real facts are these: There is, perhaps, no other business in which one can make a start with as small a capital as is required by the photographer. Certainly there are but few in which the one making the smaller start can so easily compete with the older and more fully equipped competitor, even the strongest competitor, at least in certain lines, and these lines the ones most commonly in demand. On the other hand, the possible profits on the capital invested are perhaps larger in the photographic business than in any other of a like importance as to demand. It would really be a little more than one could expect to have such a comparatively profitable business controlled by conditions that prevented only a certain favored few from taking it up. All that can be done by the worker in the professional field is to accept these facts, discard the stock excuse for lack of success and accept in its stead a more tenable position based upon a better realization of the controlling conditions.

These conditions, as we see them, are as follows: The photographer, in the mind of the general public, is supposed to be one with an artistic temperament, one with more or less of the irresponsibility that this public associate with artists in other mediums. His methods, his aims, his ambitions, are supposedly above and different from those of the dealers in prosaic articles of merchandise. The product that he delivers to his customers is not expected to be purchasable at a certain rate by the square inch, but rather at the price placed upon the artistic skill employed. The customer who comes to the photographer's studio does not compare the size and price of the pictures received with those offered by another photographer, as he would do in the case of a merchandise purchase; that is, if we except the cheaper class of commercial work. Another condition, but one less peculiar to the photographic business, lies in the fact that the success of the professional photographer does not depend so much upon the amount of his capital, his technical knowledge of his craft, or the competition to be met, as it does upon his own personality and the energy with which this personality is made to advance the business.

This brings us quite directly to the most promising path along which success may be expected to the found. The professional photographer who would succeed must take full advantage of this tendency of the public to endow him with the artistic temperament; he must encourage that inclination to set him above the dealer in more prosaic merchandise. And this he must do in a sincere and straightforward manner, not by any cheap assuming of eccentricity. He must cultivate a personality, one in harmony with this artistic inclination, and develop an energy that will make the most thereof. Lastly, he must also be a good business man, despite his apparent willingness to wear and display the somewhat irresponsible cloak of the artist. And if we will but look about us at those who have made a success of professional photography, we will find that they have, even though they may have done so unconsciously, followed along this path. And this brings us to the last consideration, namely, that these methods must not be adopted as a pose, as a make-believe. The successful professional photographer must have some real artistic feeling; he must have a personality that would be an asset in any line of human endeavor; he must be energetic above the average of his competitors, and he must be enough of a business man to know how to employ and direct these other forces. The man so equipped will be found quite busy with work that is profitable, let his location be where it will. He will have no condemnation of the situation that confronts. The fact that the owner of a ten-dollar outfit may occasionally make a picture that prejudiced friends are willing to purchase, does not embitter his soul. Instead of setting himself against conditions that are all too firmly established, he harmonizes himself and his work with the existing state, and profits thereby. He is a living exponent of the theory that success is but the simple matter of getting in harmony with one's surroundings, with the conditions that control.

L. B. Jones on the Coast

L. B. Jones, advertising manager of the Eastman Kodak Company, spent several days in San Francisco during April. If the appreciation extended his genial and lovable character by those so fortunate as to have met him while here be reciprocated in but the smallest degree, we can feel assured of the pleasure of his repeated visits. A warm welcome always awaits.

Butcher Representative Here

Alec. J. Jones, Director, W. Butcher & Sons, Limited, London, was in San Francisco during the latter part of April. Thoroughly businesslike and broad-minded, gentlemanly and genial to a fault, he endeared himself to all with whom he came in contact. Quite naturally, he could only report that business with him had been even better than his best expectations.

The question is not, Will men honor you for your work? but, Does your work honor you? Your concern is not only to create profits for yourself, but to make that which will profit many besides yourself.—Ozora S. Davis.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

The Liver of Sulphur Toner for Bromides

The method of toning bromide prints by liver of sulphur and hypo is attracting a lot of attention amongst professional photographers, and, indeed, many have decided to discontinue the hypo-alum method in favor of liver of sulphur. In carrying out the process at a recent professional exhibition the writer obtained results which were considered pleasing, and at the same time was able to note the behavior of the bath under trade conditions. The formula used was:

Liver of sulphur.........	¼ ounce
Hypo	½ ounce
Water (warm)	20 ounces

The liver of sulphur should be washed for a short time until it shows its true color—a deep brown. The toner is used warm, about eighty degrees Fahrenheit, and therefore it is advisable to use an acid-alum fixing bath when fixing prints which are to be toned. It is necessary to wash the prints only slightly, so as to remove the acid. Prints can then be placed in the toner. They appear to become deeply stained yellow at first; in about ten minutes the toning will be complete. On removing from the toning bath, the prints do not appear to be fully toned, but when the yellow discoloration is removed by washing, the tone is seen.

As regards the color produced on bromide papers, it closely resembles that given by hypo-alum, being distinctly on the cold side. Like hypo-alum, it gives warmer tones on prints that have not been fully developed, but in one direction it scores over hypo-alum in that it has no bleaching action or cutting out of the fine halftones; in fact, it has no perceptible influence on the depth of the print.

With gaslight prints the toner gives beautiful tones of a distinct sepia, and toning is complete in less than ten minutes.

After toning, the prints should be well washed until all the yellow color has gone, and dried as usual. The surface feels slimy in the toning bath, and with some papers there are dirty marks visible. These marks can easily be rubbed off when the prints get their usual wipe before drying. Glossy bromides retain their gloss after squeegeeing.

The only failures were caused by blue spots appearing in a few prints at first, but after washing the liver of sulphur and using a clean, unchipped steel enameled dish, these spots no longer made their appearance.

The bath does not keep, and should be made up freshly every time. It is cheap, as liver of sulphur is about seven pence a pound.—R. R. Hawkins in *British Journal of Photography.*

A New Method of Making Enlargements on Bromide Paper

Dr. Emil Mayer in the *Wiener Mitterlungen* describes a new process by Dr. Mente for dealing with negatives of great contrast in order to produce correctness of gradations in highlights and shadow. To briefly summarize his method, he prepares a concentrated developer about three times the normal strength, to which sufficient glycerine is added to make it decidedly thick. The paper on which the enlargement is to be made is soaked therein, the excess allowed to drip off, and it is then pinned onto the easel of the enlarging apparatus with a piece of wax paper between it and the board. An exposure is made of just sufficient intensity to bring up the shadows without affecting the highlights. The yellow cap is placed over the lens until the former is sufficiently developed. It is then removed and an exposure made for the highlight detail, after which the development is completed in the bath and the print fixed as usual. The theory of this method is that the shadow detail being once developed acts as a screen and prevents further action of light at these points. There is thus no further printing affected whilst the highlights are receiving their exposure. Obviously the success of the method will depend upon the correctness of the exposure allowed for this preliminary printing, and upon this point the author of the paper is very insistent, stating that mistakes here lead to flatness and foggy results. Furthermore, it is advised that during the secondary exposure, fresh developer be brought into contact with the bromide paper by means of a soft hair brush.

N. B. This process would be much more easily worked by the use of vertical enlargement apparatus such as I have frequently advocated, in which case the bromide paper might be very well immersed beneath a shallow layer of developer without glycerine.—(H. D'A. P.)

An Extract from Proverbs Concerning the Amateur Photographer

Knowest thou the man that is possessed of a camera? and hast thou taken knowledge of his doings?

Verily, in the beginning, his life is full of sorrow; but if he faint not, great shall be his joy!

When he setteth forth in the morning to take a view, the sun goeth in splendor before him; but, lo! when he is near unto the place, then cometh the cloud, and the rain also, and he returneth in affliction unto his house. His friends mock at him, they have him in derision, they also laugh; he snappeth them in an hour when they know it not, and is revenged.

When it is even, he getteth him into a dark chamber; he sealeth up the cracks thereof, that no light enter; he gathereth unto himself vessels of porcelain, and divers bottles. A lamp also hath he, with glass like unto a ruby, and oil to burn therein; he lighteth it, and straightway the smoke thereof ascendeth unto the ceiling and blackeneth it, causing him to fear the morrow. The smell also filleth the house, yea even unto the topmost story thereof.

After many hours, he creepeth forth from his lair and hangeth up his films in the kitchen, that they may dry; in the night-watches, the cat eateth thereof and is sick; on the morrow cometh the householder, and findeth them spoiled (and when he perceived that the cat had done this evil, he said, "Surely she shall die!" and he gat hold upon her and slew her; yea! in that very hour she perished).

Of the films that remain, he taketh, and setteth them in frames upon the window-ledge; then cometh the bondservant and openeth the casement, and the frames go down, even unto the asparagus bed.

He leaveth his tray of prints in the basin—in the running water leaveth he them; then departeth he unto the Bank, and straightway forgetteth them. Now, behold! they that are of his household come to wash, and find there the dish; they cast it out upon the floor, peradventure they deal treacherously, and drop soap therein, saying, "Lo! the fault is not ours, but his!" They also curse. (Take heed, therefore, oh, photographer! carry with thee unto the office the key of the bathroom, let it not depart from thee, then shalt thou have good prints!)

With stealth he purloineth blotting-paper from the writing desk of his wife; her scissors also he borroweth, and forgetteth to return them. He leaveth vessels of strange liquids upon the floor; the dog thirsteth and drinketh thereof, and dieth. Then doth the heart of the householder tremble; he seeketh to conceal the matter, but is found out; his daughters rise up against him, and call him wicked, their mouths also speak froward things, yet he smiteth them not, but forgiveth them, and buyeth a new dog.

The pictures upon the walls are thick with his prints, yea even upon the mirror he polisheth them; when his wife cometh to do her hair, she plucketh them away ere they have dried, and spoileth them.

With much labor, he achieveth six good prints, and, setting his heart upon a prize, he sendeth them unto the great Kodak, for to be judged. After many days, they return not unto him, neither is he commended; yet is not his heart cast down—he getteth him unto the chemist's, and buyeth more films, and is comforted.—R. L. S. in *Amateur Photography*.

Simple Method of Taking Photographs with the Microscope and Ordinary Camera

All that has to be done is to take one's ordinary camera and adjust it for infinity with a ten-inch lens, or the nearest approach to that focal length which one possesses.

With the microscope in the horizontal position, or upright if desired, the picture is arranged, the illumination properly adjusted, and the objective carefully focused on the object, as for ordinary visual work.

When everything is satisfactory, the camera and lens with the plate exposed and the shutter set is run up towards the microscope so that the two lenses (the ordinary photographic lens and the microscope ocular) are nearly touching, and directly in a line with one another, and the exposure made.

The results are equal to anything taken in the ordinary way.

It is important, however, to note that if one's eye is not normal for distant vision, it must be rendered so by suitable glasses.

I may say that this method was suggested to me by hearing a lecture by J. W. Gordon on his special photo-micrographic camera, which fits on the top of the ocular, after everything is ready.

By the use of the Leitz double ocular it can be utilized for instantaneous work. The camera and lens being placed as above described, the picture is watched through the double ocular, and when the desired picture is seen the exposure can be made.

A small arc light would be advisable for instantaneous work.

The above is an excerpt from a valuable lecture given by Duncan L. Reid, M. B., C. M., before the Royal Photographic Society. I have tried this method with histological objects under one sixth inch and five ocular and obtained good definition.—(H. D'A. P.)

Camera Extension in Photo-Micrography

The camera extension for medium and high-power photomicrographic work is a problem upon which the experts agree to differ. Mr. Martin-Duncan, in a fascinating lecture recently delivered at a meeting of the Royal Photographic Society, said that while his camera was capable of extension to about thirty inches, he was accustomed in practice to use only a ten-inch extension. He arrived at that figure after some years of work, when, looking one evening over his notebooks containing his exposure records, he was struck by the fact again and again that the best results had been obtained with a camera extension of ten inches. Subsequently he was agreeably surprised to learn from Van Heurck that for years he had invariably used this short camera extension, and that by this means the greater part of his magnificent work in connection with the microscopic plants called diatoms was done; he had relied upon his objective and his ocular or eyepiece for his magnification. Mr. Martin-Duncan, who illustrated many applications of photomicrography, has done much of his recent work with a stereoscopic camera attached to a binocular microscope.—*Amateur Photography.*

A New Color Sensitizer

A glance through the photographic literature of the latter part of the nineteenth century shows the large number of experiments carried out on the sensitizing action of dyes upon silver bromide, following the epoch-making discovery of H. W. Vogel. In the majority of cases, these experiments were made without sufficient knowledge on the part of the authors of the chemistry of dyes, and thus they were chiefly carried out with the coal-tar dyes obtainable in commerce and chosen without knowledge of or inquiry into their chemical constitution—that is to say, in ignorance as to whether the dye was a single chemical compound or not. Such experiments, however, were not without their good results, and many dyes were found in the most different classes which have been usefully applied as optical sensitizers. For red sensitizing, the branch of work of chief concern, the dye wool-black (wollschwarz) has been much recommended and used for dry plates, and ethyl violet for collodion emulsion.

In the year 1903, Professor A. Miethe discovered among the well-known chinaldin-ethyl-cyanines an excellent sensitizer for green, yellow and orange, and introduced this dye for photographic purposes under the name of ethyl red. Despite the very deficient sensitiveness of this dye for true red (the sensitizing action extends only as far as D ½ C), this was a very decided step in advance. To Miethe we owe the fact that his discovery led the way to a very large amount of further research in dyes for sensitizing. Orthochrome, pinachrome, pinacyanol, and homocol are the chief products of these researches. These dyes have completely displayed the older red sensitizers. Only erythrosine and eosine are retained in use as excellent sensitizers for the yellow-green. In comparison with the older photo-sensitizing dyes the isocyanines are distinguished by the fact that they possess a number of sensitizing bands and sensitize at one and the same time for green, yellow, and red, so that they are well suited for the preparation of panchromatic plates. The older lepidin cyanine sensitized only to red and yellow, whilst chinoline red and eosine confer sensitiveness only for green and yellow.

Many workers, in both the theoretical and practical spheres, have rightly attached considerable value on the practice of employing panchromatic plates for all three of the color-sensation negatives employed in color photography. In the case of halftone reproduction there has been a natural tendency to work in this way. A priori, it is not obvious that an individual chemical dye should be able to sensitize at one and the same time and with sufficient intensity for red, yellow and green. As a matter of fact, the sensitiveness to orange of plates prepared with ethyl red or orthochrome does not suffice for the reproduction of deep red tones in color photography; also pinachrome, which is a better dye, frequently fails in difficult cases, and only the use of pinacyanol yields satisfactory results. Pinacyanol is the most excellent red-sensitizer at present known and fulfils photographic requirements completely. Only in the case of scientific work in which sensitiveness to the red rays of the greatest wave length is required, is a new dye, pinacyanol blue, to be preferred. Unfortunately, the sensitiveness to green is inferior to that of pinacyanol, and thus the dye is not of service for green-sensation negatives, nor, unassisted, for panchromatic plates. An obvious practice, of course, is to employ a mixture of pinacyanol with orthochrome, ethyl red, or pinachrome. But the two dyes unfavorably affect each other as regards their sensitizing properties to a surprising degree, such that a plate sensitized with the mixture shows, when exposed through a filter, appreciably less red-sensitiveness than one prepared with pinacyanol alone, and appreciably less green-sensitiveness than a plate in which only a single isocyanine has been used. This phenomenon somewhat recalls the fact, well known to color chemists, that dyes which belong to chemically different classes behave, in dyeing, less well in combination than those which chemically are more closely allied. In the present case, for example, pinacyanol is not a true isocyanine, since its solution in water is very much more easily decolorized by a dilute acid than a solution of ethyl red or pinachrome.

It may be said that a true isocyanine of the same ideal red-sensitiveness as pinacyanol would combine better with isocyanines than any other, and therefore we have been striving to find in the true isocyanine series red-sensitizers which are still better than pinachrome. At the outset we were convinced that with further increase of the red-sensitiveness the green-sensitiveness would suffer. After many tedious researches, Dr. Staehlin, in our photo-chemical laboratory, has succeeded in preparing a new true isocyanine, which is fully equal to pinacyanol as regards red-sensitiveness. This new dye, which we name "pinachrome-violet," may be combined with orthochrome, or pinachrome, much better than may pinacyanol, and yields panchromatic plates which, for the same degree of green-sensitiveness, possess enormously greater red-sensitiveness than plates prepared with pinachrome. The absorption spectrum of pinachrome-violet in alcohol consists of a broad band, the nucleus of which extends from about 620 to 590 *u u*, and gradually tails off to about 550 *u u*. The absorption spectrum of pinacyanol in alcohol exhibits two sharp bands, one from 620 to 590 *u u*, and another from 570 to 550 *u u*, whilst the absorption spectrum of pinachrome likewise shows two bands, one strong, from 590 to 550 *u u*, and one weak, from 540 to 510 *u u*. Pinachrome-violet, from its mode of preparation, is undoubtedly a true isocyanine and, therefore, extremely sensitive to acid. If the solution in alcohol is diluted with much water, the dissolved carbonic acid suffices to convert the blue-violet color to one of pale red, whilst on addition of acids the solution is immediately decolorized.

As regards its mode of use, pinachrome-violet corresponds completely with pinachrome. For the preparation of panchromatic plates we recommend the following sensitizing bath:

Alcohol	3 ounces
Water	6 ounces
Pinachrome-violet, 1:1,000	48 grains
Orthochrome, pinaverdol, or pinachrome, 1:1000	48 grains

Bathe for three minutes. Do not wash.

Examples which we have made show the immense superiority of a mixture of pinachrome-violet and orthochrome over pinachrome alone with exposure behind the red filter, and over a mixture of pinacyanol and orthochrome with exposure made through a green filter. The defective reproduction of green is, as is well known, the most serious discrepancy in color photography. The best green-sensitizers, such as ethyl red, orthochrome and pinachrome are not available for the purpose. We hope to be able to record advances also in green-sensitizing, to which subject we have of late confined our experiments. Red-sensitizing may now be said to be of a kind which supplies all the requirements of present-day practice.—Dr. E. Konig in *Photographische Rundschau.*

Complete Fixation of Photographic Prints

In previous papers we have shown the difficulty which exists in removing, by simple washing with water, the hypo retained by photographic prints after treatment in the customary fixing baths, and we have likewise pointed out the means which can be employed in order to facilitate to a certain extent the elimination of the hypo—namely, the use of pressure upon the prints in alternation with brief washing.

On the other hand, we have noticed that when the fixing bath has been in use for a certain number of prints and, therefore, contains dissolved in it an appreciable quantity of silver salt, the prints treated in this used bath can no longer be completely freed from all trace of hypo, no matter how thorough the subsequent washing. Such prints, as a matter of fact, are found to give regularly a yellowish brown color of greater or less intensity on application of silver nitrate solution.

It is probable that the double hyposulphite of silver and sodium, which is formed whilst the print is in the fixing bath, undergoes a species of dissociation in the colloidal vehicle of the print, yielding hyposulphites which are less soluble and cannot be removed by the combined action of water and pressure.

The presence of these hyposulphite compounds in the image can be detected by the characteristic reaction with nitrate of silver, even when there is used for the fixing of the prints a hypo bath which has been previously employed for only a very small number of prints, and has been used for purposes of the test long before the usual limit of exhaustion has been reached.

Our experiments on these lines have been carried out on the most various printing papers, namely: printing-out, bromide, gaslight collodio-chloride and matt albumen. In the case of all these materials the same facts were observed, whatever the vehicle of the silver salt, gelatine, collodion, or albumen.

We have also made the same observations in the case of prints treated in the customary combined toning and fixing bath. The formula employed for this latter was as follows:

Hypo	4 ounces
Alum	100 grains
Lead acetate	16 grains
Gold chloride, one per cent solution	1 ounce
Water	16 ounces

Twenty prints, 5x7 size, were treated together in seven ounces of fresh combined bath. After continuous washing for twenty-four hours, the presence of hyposulphite compounds was detected in all the prints by an intense yellow stain where the print was touched with a drop of silver nitrate solution.

In another portion, also seven ounces of fresh bath, a different set of twenty prints was likewise treated, but the last was not placed in the bath until the first had been completely toned, and removed, inserting the whole twenty prints in this way. It was found that only the first two prints could be completely freed from all traces of hyposulphite compound by prolonged washing. Starting from the third print, the silver nitrate test gave stains, which were more marked the more the bath had been used, that is to say, the greater the number of prints which had been fixed in it.

It follows from these observations that photographic silver prints remain impregnated with soluble substances containing hyposulphite and constituting a cause of more or less immediate change according to the conditions in which they are placed. We have endeavored to discover a means of remedying this defect and have found it in the treatment of the prints in a second fresh or little-used hypo bath, following the washing of the prints for a time sufficient to remove the greater part of the hypo from the first fixing bath. The use of a second fixing solution has already been advocated by Wallon, but only for prints treated in the combined bath, and with the object of making certain of fixation and avoiding the formation of a double silver sodium hyposulphite sparingly soluble in water. The necessity, however, of this second fixing was not shown and the exact conditions for the use of the second fixing bath not laid down.

This supplementary application of a hypo bath may be used, we have found, with success at any time, even after the prints have dried, provided, of course, that they have not undergone alteration. By means of the second fixer and a second washing, we have been able to make certain of removing every trace of hyposulphite substance capable of detection by the silver nitrate test. This result is attained in the following way:

First fix as usual for about five minutes in a hypo bath, which may have been previously used, or tone in the combined bath, in the case of prints being treated in this way.

Wash the prints for about one hour, allowing them to drain clear of the wash water about every quarter of an hour, at the same time pressing the water from them before putting them to soak again.

Next place the prints for five minutes in a second hypo bath of four ounces hypo to twenty ounces water, keeping this solely for the second fixation.

Again wash the prints for about an hour or an hour and a half as after the first fixing, and at the end of this time test with a drop of silver nitrate solution on the edge of a print. It should show no appreciable yellow color after two or three minutes. When a certain number of prints have been passed through the second fixing bath, it will be found that this result is not obtained after one and a half hours' washing, the second bath having taken up too much silver salt. It is then used as the first fixing bath and a new solution made up for the second fixer. It should, of course, be added that no useful purpose is served by a second fixing bath where an eliminator or chemical destroyer of hyposulphite is employed for the removal of the last traces of hypo from the film.—Lumiere and Seywetz in *British Journal of Photography*.

R. E. Blake-Smith, in a paper to the *British Journal of Photography*, states that he has re-investigated the work of the above writers and in general confirms their conclusions. He finds that the reticulation of silver and lead does not occur with plates or films, and he suggests that the metals are attracted and held by the facing of the paper that underlies the gelatine coating. It seems to me that the sensible thing to do is always to use a destroyer such as weak permanganate.—(H. D'A. P.)

Photography and Radium

Photography is such a maid-of-all-work that a fresh application scarcely arouses wonder. But in view of the present great activity in radium research, it is interesting to learn that photography is used at the radium stations of Austria for the purpose of deciding whether a preparation of radium is sufficiently radio-active to be of use in medical treatment. A photographic plate is placed in an envelope of black paper, a silver coin laid upon it, and above this a cushion or compress containing some radium residues with a very minute quantity—somewhere in the neighborhood of one thousandth of a milligram — of the metallic radium. The package is then placed in a drawer and left for three hours, afterwards being developed for one hour in metol-hydroquinone. The coin should then be recognized on the plate as a clear impression. If this be not the case, it follows that the radium preparation is so feebly radioactive that one cannot expect, even with a very long application to the tissues, to obtain any therapeutic results.—*Amateur Photography*.

Seneca Camera Catalogue

One of the catalogues always impatiently watched for by the trade is that of the Seneca Company. The 1914 edition comes to us with a cover printed in many colors and bearing a new presentation of the charms of the famous Seneca girl. The Princess of the Senecas is shown in a graceful position on a bluff overlooking a fertile valley. Beside the princess, and to her left, is located the signal fire of the Senecas.

The contents of the catalogue cover completely the products of the house. The roll film, film pack and dry plate cameras made by this company cover a large assortment and are described in detail. Considerable stress is laid upon the folding-roll film line, new this year. All of the models are offered with round ends and are covered with seal grained leather and push cord releases. Among other things, two notable additions have been made in the Scout line. Many additions have also been made in the sundries manufactured by the company. Get one of your dealer, or write directly to the Seneca Camera Manufacturing Company, Rochester, N. Y.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

The Dark-Room Light

Negatives are constantly being brought or sent to us with a request that the reason for their very evident shortcomings be pointed out. In the majority of cases these negatives, mainly film ones today, are poor printers through a lack of brilliancy or clearness. This lack of good printing quality is due to a veiling over the entire negative, a veiling that discloses itself in the lack of clearness of the edges, the edges protected by the rabbet of the plate holder or the back of the camera in the case of films. This shows conclusively that one of three things has caused the trouble in the case of plates and one of two things in the case of films, assuming that the plates or films, as the case may be, are in good condition when purchased. The plates have either been loaded into the holders in an unsafe light; the camera, generally the bellows, leaks a little light; or, that development is conducted in a light that is not safe. With films, only the last two causes need be considered.

In the case of the plates, one will find that he can quite easily load his holders in absolute darkness; and, in order to eliminate this possible cause, this should be done when searching for the source of the trouble. The next possible cause is one that is quite common,—a leaky bellows. The folds in the corner of a bellows are subjected to both the wear that is natural and the equally necessary repeated bending of the leather or other material at those points. The result is that they admit light at a more or less early stage of the camera's existence, depending upon the quality of the leather or substitute therefor of which they are composed. To find out if the fault lies at this point, take the camera into a darkened room where no strong light will fall upon it, wrap the bellows fairly close with the focusing cloth or some like material, and then make an exposure on the scene outside the open door or window of the room. This done, it is quite safe to assume that any fog in the resultant negative is not due to a leaky bellows. This leaves the experimenter with only the dark-room light to be questioned. Let him take an unexposed plate or film, place it in his developing tray or tank and subject it to the usual amount of handling and examination at the usual distance from the light used. If this shows fog or veiling upon removal from the fixing bath, the light can be adjudged as unsafe. In the case of a plate, an unexposed one, being developed in a tray, one can cover one-half of the tray during the entire time and this will no doubt result in the production of a fixed plate with one end, the one exposed to the light from the dark-room, being fogged, while the protected end will be clear. Should this protected end also show veiling and one is quite sure the protection from light has been constant, a suspicion may be attached to the plate itself. Some very rapid plates, particularly if not fairly fresh, will give chemical fog upon being subjected to the action of the developer, particularly if the solution be rather strong in alkali or a caustic alkali used. If this last is suspected, the proper course would be to develop one of the unexposed plates or films in question, in absolute darkness for the usual time of development. Should this result in a fogged emulsion, the emulsion or an unsuited developer can be blamed.

The worker will find that trying out these several matters will not consume a great amount of either time or material, and the knowledge and satisfaction gained will more than compensate him therefor, not to mention the amount of trouble and perplexity removed should he discover the cause of his unsatisfactory negatives and remove it forthwith. And, as our experience indicates, he will find the real trouble, nine times out of ten, to be the unsafe quality of his dark-room light; we would like to suggest that any effort to improve this last should take into consideration the fact that a larger area of light-producing surface does not increase the unsafeness of the illumination. On the other hand, its effect is to minimize the danger from fog for the simple reason that the larger amount of light removes the temptation to bring the plate so close to the source of light. It must be remembered that the strength of a light, the power to produce fog we might almost say, decreases with the square of the distance therefrom; the amount of light, in measurement of area of surface from which it originates, having no such effect. A square inch of glass in a ruby lamp, if that glass be one that allows unsafe light to pass, is just as dangerous at a given distance from the plate as would be a square foot of the same illuminating surface. The ideal dark-room would be one glazed on all sides with a material that allowed the minimum amount of actinic light to pass through. Such a material would not allow a very brilliant light to pass, but the amount would make up for the lack in strength, at least to an almost equal degree. It should be remembered that no light is absolutely safe. Exposed long enough, so-called and quite satisfactory ruby lights are capable of producing light action on the emulsion of our ordinary plates and films, and to a still greater extent upon the various orthochromatic emulsions. All that we can hope for is a fair amount of illumination that carries so little actinic light that some time is required, time sufficient to complete development, before the light action is sufficient to produce fog or veiling.

Formalin

Formalin is a very useful chemical in photography, but great caution must be observed in its use. It often causes hardness of the skin with loss of sensibility, and sometimes blisters are caused to form under the nails. It also attacks the mucous membranes of the nose and eyes. Use it only where there is strong flow of fresh air, avoid breathing it, and keep the hands out of it as much as possible.

Copying Line Drawings

A recent visitor brought with him a little album made up of prints from negatives made from a series of pencil drawings, and their excellent quality caused us to ask as to the method used. As his way of working would no doubt interest many others, the plan being, of course, equally suitable to other classes of black-and-white line work copying, I will set it down here. His success he attributes entirely to the developer used and the after treatment, when necessary, with a quick-acting reducer. He says that in this class of work, pencil sketches, printed matter and the like, what is wanted is a negative that will give the whites as white and the blacks as black as possible, an entirely different requirement from that demanded in the copying of pictures containing intermediate tones, where gradation as well as contrast is wanted.

A slow plate, preferably backed, is used and ample exposure given. The developer is compounded as follows:

Hydroquinone	80 grains
Sodium sulphite, crystals..	2 ounces
Formaline	2 drams
Water	10 ounces

Development is allowed until the opaque parts are clearly seen on the back of the plate, under-development being fatal to good results. From the developer the plate is rinsed under the tap for two or three minutes and then placed in the fixing bath. Upon removal from this latter, if there is any sign of veiling of the lines, the negative should be directly immersed in a fairly strong ferricyanide and hypo reducer for a very brief period, just sufficient to clear up the lines without any appreciable effect upon the dense portions. Using a slow, a thickly coated plate, and the above developer, good results are practically assured.

Removing Old Paint

Take equal parts of common soda and quicklime; dissolve the first in water and then add the latter. This solution, applied to old painted surfaces with a brush or rag, will soften the old coating so that it can be washed off quite easily with hot water.

A Good Wax for Floors

Melt one pound of beeswax in eight ounces of hot, raw linseed oil, and then add sixteen ounces of turpentine. This is a very simple waxing solution that gives a most durable surface.

Removing Ink Stains from Wood

Apply sweet spirits of nitre; and, when the spot turns white, wipe off with a soft cotton rag. A second or third application may be necessary and possibly an ink may be found that will not respond, although this is generally successful.

OUR BOOK SHELVES

"Handbook of Photo-Micrography"

The above volume, the joint work of H. Lloyd Hind, B. Sc., F. I. C., and W. Brough Randles, B. Sc., is a masterly exposition of modern methods coupled with a full description of the apparatus employed, both microscopically and photographically. Eight three-color reproductions, forty-five plates and eighty-five halftone reproductions add greatly to the value of the work, and in addition there are some seventy text-illustrations. Accuracy and simplicity characterize the style and scope of the work, this last, the scope, being particularly broad and comprehensive. The photography of small objects from natural size up to the highest magnification, stereoscopic photomicrography, cinematomicrography, and color photomicrography, all come in for full treatment. All in all, the work is a valuable one that should be in the hands of all students of technology and research, medical practitioners, and all interested in any way in the application of photography to microscopic work. Published by E. P. Dutton & Company, 681 Fifth Avenue, New York. Price, two dollars and fifty cents, net. Postage, twenty-two cents.

"Elementary Photo-Micrography"

This, a second edition, shows how well this little book, "Elementary Photo-Micrography," by Walter Bagshaw, has been appreciated. Works on this subject are many, and notable chiefly for the complexity of their detail, a feature that discourages the average photographer from approaching this, one of the most interesting fields of camera work. Bagshaw's book is free from all technical verbiage and all unnecessary detail; it deals in a simple and straightforward manner with the average class of objects, and illustrates by tried cases aided by excellent figures, clearly indicates the mode of procedure to be followed. The beginner cannot find a better introduction and old workers may find many points of interest. Published by Illife & Sons, Limited, 20 Tudor Street, London, E. C., England. Price, seventy-five cents, postpaid.

CLUB NEWS AND NOTES

Los Angeles Camera Club

An interesting exhibition of enlargements and carbons, made exclusively by members of the Los Angeles Camera Club, under the auspices of the Child's Welfare Department, attracted hundreds of interested visitors to the art gallery of Blanchard Hall, Los Angeles, during the week ending March twenty-first. The collection consisted of nearly four hundred original pictures specially made to illustrate child life, its pleasures and pastimes, in sunny California, and to demonstrate to tourists and prospective visitors to the exhibitions of 1915, that it is the ideal climate in which to locate and bring up children. The exhibit is to be shown in all the principal cities of the United States and Canada, between the Atlantic and Pacific Coasts, and subsequently tour Europe under the direction of Jessee H. Buffum, who is in charge of child's welfare work, and Miss Edith Brubaker, the "Los Angeles story-telling girl," in connection with a set of lantern slides illustrating the old missions of California.

A second set of the enlargements will be shown at the San Diego Exposition. Most of them tell a story without words, and in the opinion of the committee of artists who passed on them at the close of the first exhibition, they form, probably, the finest and largest collection of naturalistic photographs of children ever shown in America.

California Camera Club

The Club calendar for May reads as follows:

Tuesday, May 12th — Regular monthly meeting in the clubrooms at 8 p. m., and the American lantern slide interchange slides from the Orange Camera Club.

Friday, May 22d—The regular monthly lecture at Native Sons' Hall. This lecture will be a big feature, the Club having the good fortune to again secure Mr. B. R. Baumgardt with a lecture that is entirely new and one that has been enthusiastically received in the East, the subject being "Shakespeare and Shakespeare's England."

The new Demonstration Committee has arranged a series of demonstrations for the coming year, and has promised something at least once a month, perhaps twice. The Outing Committee announces that owing to the close proximity of the annual outing to Yosemite, no other outing will be arranged for this month.

The Yosemite Outing Party will leave this city at 8 a. m., Saturday, June 6th, arriving at Yosemite at 6 p. m. the same day. This outing is proving to be a most popular one. The rate for the nine days is thirty-three dollars and fifty cents, including all traveling expenses, going and returning, board and lodging at Camp Lost Arrow, and a box lunch going and returning.

The Print Committee announces the exhibition of the Woodacre prints, to be judged Wednesday afternoon, May thirteenth, remaining on exhibition until June first. On June first a collection of marine pictures, the work of C. F. Armstrong, will be placed on exhibition, remaining until the twentieth of June. Following this exhibition, we are in hopes of having an exhibition from the Curtis Studio of Seattle, Washington.

Camera Pictorialists of Los Angeles

Feeling the need of competent criticism and association, a number of the pictorially ambitious have formed the "Camera Pictorialists of Los Angeles." The membership is composed of Messrs. Archer, Ellsworth, Fleckenstein, Lindstedt, Little, Monteverde, Smith, Wallace, Weston, Williams, and Mrs. C. D. Allen and Miss Margarethe Mather. Nothing but strictly pictorial work will be done and they hope to add their small mite towards the advancement of pictorial photography.

Pictorialists visiting Los Angeles are invited to call upon the Director, Louis Fleckenstein, Room 413 Blanchard Hall, or write to the Correspondent, A. S. Little, 758 Pacific Electric Building, to arrange for a meeting with the members. This new organization is composed of very fine workers and we predict for it a success that will be both gratifying and praiseworthy.

Cleveland Photographic Society

An exhibition of lantern slides on Mexico was given by the Cleveland Photographic Society, at its rooms, 400-402 Cuyahoga Building, Wednesday evening, April twenty-second. Admission was by invitation and a large audience enjoyed the excellent slides.

At the regular meeting held on April eighth, seven new members were admitted to membership. The new trustees are: Dr. H. B. Van Tress, chairman; John F. Lewis, Leland C. DeGroodt, W. H. Leman, and George M. Nisbett, secretary-treasurer. Meetings are held regularly on the second and fourth Wednesdays of each month.

Another Kellogg Exhibition

Announcement reaches us that the next exhibition of the series that Spencer Kellogg, Junior, is holding at his studio in Buffalo will consist of pictures by Clarence H. White. Mr. Kellogg is to be congratulated upon securing such noteworthy exhibitors, and the residents of his city should feel grateful to him for the opportunity these exhibitions present. This last one was held April twenty-second to twenty-fifth, inclusive.

Notes from the Illinois College of Photography

James Paasche, inventor of the Paasche air brush, spent a day at the college last month demonstrating the various uses and possibilities of his air brush.

The College Camera Club held its regular photographic contest last month and the prizes were won by S. Kubota of Japan and C. F. Kann of Finland.

The Students' Tennis Association has been duly organized and a handicap tournament is in progress, with Brockett a strong favorite.

Effingham was voted dry territory last month by the women voters overcoming a plurality of about a hundred men votes.

N. Ghose, Hindoo student of 1912, and Tom Abraitis, of 1910, have returned for additional work in photo-engraving.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

James B. Warner, Director Stereoscopic Division, 413-415 Call Building, San Francisco.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

George E. Moulthrope, Director Lantern Slide Division, Bristol, Conn.

Edward B. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

MEXICO.

Vice-President—Jose Ramos, Zitacuaro, Michoacan, Mexico.

Album Director—J. Jesus Martinez, Ap. 5, Morelia, Mich., Mexico.

CANADA.

Album Director—C. H. Foster, Kerwood, Ontario, Canada.

Secretary—J. A. Waddell, Kerwood, Ontario, Canada.

ALBUM DIRECTOR.

Alabama—Richard Hines, Jr., 155 State St., Mobile.

Alaska—P. S. Hunt, Valdez.

California—W. E. Thomson, 3540 School St., Fruitvale.

Colorado—O. E. Aultman, 106 E. Main St., Trinidad.

Connecticut—George E. Moulthrope, Bristol.

Florida—Capt. E. S. Coutant, Lock Box 73, Stuart.

Georgia—L. O. Surles, 231 E. Pine St., Atlanta.

Idaho—Eugene Clifford, Weippe.

Illinois—George A. Price, 1102 West Main St., Urbana.

Indiana—H. E. Bishop, 1706 College Ave., Indianapolis.

Iowa—C. E. Moore, Eddyville.

Kansas—H. E. High, Box 72, Ellsworth.

Maryland—E. G. Hooper, 218 East 20th St., Baltimore.

Massachusetts—John Mardon, 161 Summer St., Boston.

Michigan—W. E. Ziegenfuss, M. D., 327 West Hancock Ave., Detroit.

Minnesota—Leonard A. Williams, St. Cloud.

Mississippi—George W. Askew, Jr., 211 34th Ave., Meridian.

Missouri—Wharton Schooler, R. F. D. No. 2, Eolia.

Nebraska—Miss Lou P. Tillotson, 1305 South 32d St., Omaha.

New Hampshire—Mrs. A. Leonora Kellogg, 338 McGregor St., Manchester.

New York—Louis R. Murray, 17 Hasbrouck St., Ogdensburg.

New Jersey—Burton H. Allbee, 103 Union St., Hackensack.

North Dakota—Jas. A. Van Kleeck, 619 Second Ave., North, Fargo.

Ohio—J. H. Winchell, R. F. D. No. 2, Painesville.

Pennsylvania—L. A. Sneary, 2822 Espy Ave., Pittsburg, Pa.

South Dakota—C. B. Bolles, L. B. 351, Aberdeen.

Texas—J. B. Oheim, P. O. Drawer M, Henrietta.

Utah—John C. Swenson, A. B., Provo.

West Virginia—William E. Monroe, Box 298, Point Pleasant.

STATE SECRETARIES.

Answers to inquiries concerning membership and membership blanks will be supplied by the State secretaries. Album directors are at present acting as State secretaries in such of their respective States as have as yet no secretaries.

California—W. E. Thomson, 3211 School St., Fruitvale, Oakland.

Idaho—Eugene Clifford, Weippe.

Kansas—H. H. Gill, Hays City.

Missouri—J. F. Peters, Room 210, Union Station, St. Louis.

New York—Louis R. Murray, Ogdensburg.

Oregon—F. L. Derby, La Fayette.

Texas—Emmett L. Lovett, Roby.

Wisconsin—F. W. Freitag, 500 Monument Square, Racine.

Mississippi—George W. Askew, Jr., 211 34th Ave., Meridian.

NEW MEMBERS

3849—Maurice J. Monnich, Hooper, Neb.
3¼x5½ and enlargements, various papers, of farm scenes, landscapes, hunting, fishing and athletic scenes; for anything of interest. Class 1.

3850—Bert Walker, 309 Fourth St., Petaluma, Cal.
Class 2.

3851—W. A. Drewelow, Wesley, Iowa.
Class 3.

3852—J. W. Jeffers, Frankfort, Ky.
3¼x5½, 4x5, 5x7, and enlargements to 8x10, various papers, of scenery around Chattanooga, Lookout Mountain, New York, and Frankfort, Ky., also a few nude; for nude, scenery and anything that is good. Class 1.

3853—J. R. Amelung, 806 Grand Ave., Kansas City, Mo.
Class 2.

3854—Alfred M. Rice, 113 Concord Place, Syracuse, N. Y.
Class 2.

3855—A. P. Bowe, Box 331, Mount Gileod, Ohio.
3¼x5½, developing paper, of landscape and nature pictures, also human interest pictures; for the same. Class 1.

3856—Duane Colby, Easton, Wis.
3¼x4¼, of home scenes and portraits; for any scenes of home or abroad. Class 1.

3857—Robt. R. Keller, Fayetteville, W. Va.
5x7 and smaller, various papers, of snow scenes, river and mountain scenery, and a few coal mining; for any good scenery, Rocky Mountain especially. Post cards and gaslight paper only. Class 1.

3858—R. H. Gay, 303 Pool Road, Biddeford, Maine.
Class 2.

3859—Don Luther, P. O. Box 426, Santa Clara, Cal.
4x5 and post cards, developing and printing-out papers, of landscapes, public buildings, farm scenes, etc.; for post cards, landscapes, river and snow views. Class 1.

3860—E. A. Kliese, 318 Elder St., Council Bluffs, Iowa.
Class 3.

3861—Arthur Klinckmann, 1446 Turner Ave., Chicago, Ill.
Class 2.

3862—Olaf Larson, Bentley, Alta., Canada.
Class 2.

3863—Lovic Meredith, Waynesboro, Tenn.
3½x5½, developing papers, of historical value; for the same. Prints and post cards, black and white, also tinted. Class 1.

3864—Lester Lease, Box 161, Wesley, Iowa.
3¾x5½, various papers, of scenery and portraits; for anything of interest. Class 1.

3865—Ernest Niebergall, P. O. Box 121, Sandusky, Ohio.
5x7, 8x10, and post cards, various papers, of landscapes, and animal scenes; for anything of general interest. Post cards only. Class 1.

3866—Dr. A. L. Bower, Rhoads Bldg., Boyertown, Pa.
3¼x5½, developing papers, of children, country, trees, snow, and locomotives; for anything of general interest. Class 1.

3867—M. T. Stradford, Box 223, Birmingham, Ala.
2½x4¼, 3¼x5½, 8x10, developing paper, of street scenes, business buildings, residences, blast furnaces, steel mills, rolling mills, contruction, railroad trains, water power construction, scenery, country views (17,000 listed negatives); for mountain scenery, water power construction, railroad trains, and water views. Class 1.

3868—Ernest R. Norquist, 5758 Laflin St., Chicago, Ill.
Class 2.

3869—J. T. Miller, R. F. D. No. 1, Murat, Va.
8x10 and smaller, developing paper, of farm life; for miscellaneous views. Class 1.

3870—William Tice, Belford, Okla.
Class 2.

3871—Clarence V. Purssell, 1257 Morton St., Dorchester, Mass.
Class 2.

3872—S. B. Risdon, R. F. D. No. 5, Watsonville, Cal.
Class 2.

3873—C. Lilie, Persia, Iowa.
Class 2.

3874—B. Franklin Waite, 445 Avenue U, Brooklyn, N. Y.
Post cards, 8x10, 11x14, various papers, of views of Coney Island, New York, lake subjects, children, and miscellaneous views; for something odd and interesting, as Indians, speed work, etc. Class 1.

3875—William Ludlum, Jr., 138 N. Columbus Ave., Mt. Vernon, N. Y.
5x7, developing paper, of home portraits, genre, landscapes; for the same. Prints and post cards. Class 1.

3876—Charles F. Becker, 1221 W. Avenue, La Grande, Ore.
2¼x3¼, 3¼x5½, and post cards, developing paper, of mountain and river scenes, and general outdoor subjects; for land and water scenes, and shipping, no sepias. Only good work sent and received. Class 1.

3877—C. E. H. Paul, R. F. D. No. 1, Box 70, Rochester, Wash. Class 2.

RENEWALS.

171—Eva Ephraim, 521 Campbell St., Escanaba, Mich.
Class 2.

256X—Eric Schuman, Rolla, Mo.
Class 2.

2232—J. L. Park, 7939 Susquehanna St., Pittsburg, Pa.
Stereos only. Class 1.

2615—Hugo H. Schroder, 303 E. State St., Bettendorf, Iowa.
Post cards, 3¼x5½, developing paper, of views, birds, and subjects of general interest; for birds, nests, nature studies, and any interesting subjects. Prefer post cards. Class 1.

2880—J. H. Helsey, 715 Grant Ave., Martins Ferry, Ohio.
5x7, developing papers, of general views of the Ohio River, floods, boats, etc.; for anything interesting. Class 1.

2894—John F. Fensel, R. F. D. No. 9, Montpelier, Ind.
Post cards, various papers, of landscapes, farm scenes, wild animals, and genre; for landscapes, railroad scenes, mountain and river scenes. Post cards only. Class 1.

2957—Oscar C. Kuehn, 3405 Caroline St., St. Louis, Mo.
Class 2.

3300—Clyde Merritt, R. F. D. No. 3, McCune, Kan.
2½x4¼ and 3¼x5½, developing paper, of miscellaneous subjects; for the same. Prints and post cards. Class 1.

3325—Mrs. Ida M. Bard, Arcadia, Texas.
3¼x5½, developing paper, of scenes, orchards, trees, residences, groups and local views; for views from California and Western States, ranch pictures, mountains, landscapes, and nature studies. Good work for good work only; post cards or prints. Class 1.

3329—George R. Bunn, 1571 W. First St., Los Angeles, Cal.
3¼x5½, developing papers, of Yosemite and other National Parks, large variety of Sierra Nevada and South California mountain scenery, marines, and general views, also some nude and semi-nude figure studies; for the same, prints preferred, no buildings or city scenes desired unless genre, speed or novelties. Class 1.

3330—Anthony J. Buchal, R. F. D. No. 4, Olivia, Minn.
Post cards of general views, also copy and enlargements. Class 1.

3346—R. G. Johnson, Box 13, Whitman, Neb.
Class 2.

3363—H. O. Howard, Kelowna, B. C., Canada.
Class 2.

3605—Paul A. Wolf, 707 Eleventh St., La Salle, Ill.
3¼x5½, developing paper, of scenes in woods, outdoor scenes in general, groups, portraits, etc.; for portraits, scenes, or anything of real interest. Post cards and prints. Class 1.

3639—Cesareo Castilla, Calle Urbieta 55, San Sebastion, Spain.
All sizes, various papers, of Spanish scenes, bull fights, Spanish dances, pictures of the King and Queen, Arabic and old monuments; for scenes from California, cowboys, redmen and Chinese, and from other countries, national scenes. Class 1.

3648—W. H. Hawley, Vernon, Texas.
3¼x5½, 3¼x4¼, developing paper, of views and animals, wild and domestic; for views of any kind, if good. Only good work sent and accepted. Class 1.

3663—Alfred Price, Box 451, Midland, Mich.
3¼x5½ to 5x7, developing paper, of local views, winter and summer, pinhole views, comics, etc.; for views of Western, Southern and mountains. Post cards only. Class 1.

3738—William F. Prevett, 303 S. Loomis St., Chicago, Ill.
Post cards to 8x10, various papers, of views, home portraits, flashlights, and street scenes; for the same. Post cards only. Class 1.

CHANGES OF ADDRESS.

3358—Asa L. Brower, Kamas, Utah.
(Was Ogden, Utah.)

3506—William H. Clark, Jr., 5018 Aspen St., Philadelphia, Pa.
(Was 235 Cherry St.)

3568—George W. Teasdale, 544 Echo Park Ave., Los Angeles, Cal.
(Was 1332 Edgeware Place.)

3593—Hoover's Picture Shop, 207 Main St., Oshkosh, Wis.
(Was Ladysmith, Wis.)

3658—H. W. Rutherford, 2503 East 79th St., Chicago, Ill.
(Was 2863 E. 77th St.)

3684—W. J. Willis, Janesville, Minn.
(Was Kettle River, Minn.)

3696—Harry J. Hunt, 10320 St. Clair Ave., Cleveland, Ohio.
(Was Cuyahoga Falls, Ohio.)

3724—Guy C. Redmond, 1405 West Fourth St., Little Rock, Ark.
(Was Pine Bluff, Ark.)

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

Tony Martin, who was seven years with the Bushnell Studio in Oakland, is now married and with Hartsook in Los Angeles.

Fred Adams, the home portrait photographer of Los Angeles, now has three operators in the family—another boy.

H. R. Fitch of San Diego seems younger looking each time the writer calls. (Kindly send the formula to CAMERA CRAFT.)

Wm. J. Grow, formerly with the Eastman Kodak Company, now holds forth at Dyas, Cline & Co., Los Angeles' largest sporting goods house.

J. M. Hughes is assistant to Wm. J. Grow at Dyas, Cline's Sixth and Spring Street store. He is some clerk, too.

Hugh Trout of Salinas recently gave a barbecue dinner to some friend from Santa Cruz and the writer.

Frank Aston and J. T. Hall of San Luis Obispo took advantage of the May Day holiday, closed up and went to the picnic. The writer had to stay over a day on that account.

The American Film Manufacturing Company of Santa Barbara now have four camera men. One of them, Tom Middleton, is quite an actor—takes the part of a lawyer as a rule. Miss Leontine Birabent has charge of the office. She is a veritable Study in Deep Purple.

Prominent Iowa Photographer Dies

George F. Johnson, a well-known photographer of Webster City, Iowa, died suddenly of apoplexy at his home on April nineteenth. He had been about his studio as usual and there was no indication of illness until he fell from his chair where he had been seated reading the paper. He lapsed into unconsciousness from which he failed to recover.

A Flash Powder of Merit

The local firm, Marsh & Company, of 712 Market Street, advise that they have secured the exclusive distribution of the perfected flash powder, heretofore so well and favorably known as the "Inglis" formula. The "Aucelo" brand especially will appeal to the users of flash powder generally and most particularly to the newspaper photographers and those making large groups. This powder should have a large demand here on the Coast, now that it is obtainable and users become acquainted with its exceptionally good quality. The manufacturers, the Photo Chemical Company, of Chicago, are to be congratulated upon securing the co-operation of such an enterprising local firm; and, with the high quality of their product, they should duplicate their success in other territory.

New Kodak Catalogue

Another fine catalogue that we look for early each spring is the one listing and describing the Kodak line. This year the new issue is a most interesting one, listing as it does such a complete and varied line of hand and pocket cameras that the most exacting can find the exact instrument desired. The new No. 1 and No. 1A Kodak Junior are specially worthy of notice on account of their strikingly thin and compact form. The descriptions of the different models are full and complete and the booklet is illustrated with cuts of the various instruments, printed in the highest style of the art. A copy should be obtainable at your dealer's by the time this reaches your eye; but if not, they are sent free upon request to the Eastman Kodak Company, Rochester, New York. A post card brings one and the matter of sending it should not be delayed.

Enthusiasm in Contest is High

It is hardly possible to grasp the immensity of the nation-wide enthusiasm created by Ansco Company's five thousand dollar America's Loveliest Women Contest. Hundreds of letters to Ansco Company from photographers everywhere prove what they have believed from the first, that the competition will be one of the greatest ever known in the history of photography.

The publicity given the contest through national advertising in leading magazines has spread the news from Coast to Coast. Ansco dealers are prepared to furnish all prospective entrants with the list of rules and blank to fill out when submitting portraits. The conditions are so open and simple, the prizes so generous and the personnel of the jury of award so popular that great interest has been created.

Such interest means that thousands of portraits will be entered from every nook and corner of the United States. Enthusiasm is quite as genuine in the little villages as in the great cities. The end of the camera trail alone marks the boundary.

Have you secured your entry blank? Have you sought out that loveliest woman? Have you planned how soon you will make her portrait the best of your career? Could any photographer enjoy greater distinction than to win one of the fifty prizes, amounting to five thousand dollars in all; to have his work exhibited to the world at the Panama-Pacific Exposition?

Your opportunity is unusual. Leave nothing undone to win a big prize. Put your mind and talent to work and make as many entries as you can. The contest will run from May first to December first, but lose no time. Watch for the Ansco advertisements in the big magazines. Tell your friends all about this magnificent idea. Get their enthusiasm keyed up like yours. That's the way to get real pleasure and real profit out of Ansco Company's five thousand dollar Loveliest Women Contest. Watch for further announcements in this magazine.

Herbert & Huesgen's New Catalogue

One of the most satisfactory productions which as reached us in recent years is that descriptive of the new Tourist Multiple Camera and Projection Lantern just introduced by this house. The new camera and lantern form, in the language of the makers, "a new and efficient equipment of original design of the highest grade of manufacture, and of remarkable compactness and capacity in service and convenience in use."

The manufacturers have designed a camera, easily carried in the pocket, equipped with a high grade lens, and using the standard perforated motion picture film, taking seven hundred and fifty pictures without reloading, and making separate, individual exposures. Fifty-foot rolls of Eastman standard perforated film in daylight loading magazines are furnished for use with the camera. The mechanism by which a new portion of the film is brought into position for exposure is extremely simple, and the operation of the camera is practically automatic. Examples of enlargements made from negatives produced by the camera are shown in the catalogue in combination with exact-size reproductions of contact prints. The examples shown cover every possible use of the camera, clearly demonstrate that the equipment has all the speed necessary to record contemporaneous events under normal conditions.

In connection with the camera there is offered a projection lantern, with rheostat and electric wires for attachment to any ordinary house socket. By means of this device, positive film can be shown upon the screen in the same manner as lantern slides are shown through the ordinary projection machine. The negatives made by the camera are satisfactory for the making of enlargements up to five by seven inches in size, due to the short focus lens supplied with the equipment. But send for your own copy, addressing Herbert & Huesgen Company, 456 Fourth Avenue, New York, N. Y.

The Korona Studio Stand

The attention of our readers who have need for a camera stand that is adjustable as to height and inclination, while being light and portable, is called to the advertisement of the Korona Folding Studio Stand, manufactured by the Gundlach-Manhattan Optical Company, 766 Clinton Avenue, South, Rochester, New York, and for sale by practically all dealers. These come in two sizes, No. 1 for cameras up to the 5x7 size and No. 2 for larger ones. The prices are moderate and they are certainly a most effective stand, far more convenient than an ordinary tripod for home portraiture and other indoor work. Write the manufacturers for a descriptive circular.

"Ensign and Other Camera"

The above is the title of the new catalogue, one of the first of the new ones to reach our desk, gotten out to promote the sale of the "London Made" line of Ensign and other cameras. We would advise all our readers to send for a copy of this seventy-two page list, as it is instructive and well illustrated, aside from its descriptive matter concerning an excellent and appealing line of cameras. The line is very complete and includes many special models that are sure to appeal to workers wanting something a little different from the regular thing. And, when writing, ask that you also be sent a copy of the Ensign Film pamphlet, a smaller but equally interesting piece of printed matter that should be in the hands of the film user interested in the best work. Both are sent free upon request addressed to G. Gennert at any of the following addresses: 24-26 East Thirteenth Street, New York; 320 South Wabash Avenue, Chicago, or 682-684 Mission Street, San Francisco, if your dealer cannot supply.

"The Age of Risks"

The above is the title of a meaty little book gotten out by the London house of Burroughs, Wellcome & Co. with its usual thoroughness. The full title is better: The Age of Risks with Some Notes on First-Aid in Emergencies, as it indicates more clearly the real purpose of the book. It is well illustrated, and such chapter titles as Bandaging, Bleeding, Bruises, Cuts, Dislocations, Drowning, Electric Shock, Fits, Fractures, Poisoning, Scalds, Wounds and the like, indicate the scope of the book. Of course, the use and excellence of "Tabloid" first-aid preparations are mentioned, but that should only add to the value of the book. Copies can be obtained by mentioning this notice and addressing the American office, Burroughs, Wellcome & Co., 35-39 West Thirty-third Street, New York.

The New "Housh" Catalogue

This new catalogue, besides being quite interesting in the scope that includes, in addition to the Housh Quick Detachable and other albums and the Housh line of mounts and folders, the Housh Film Album, Housh Photo Masks, Calendar Pads, Stub Binders and Musical Record Albums, is an example of very fine printing and illustrating. Our readers should ask their dealer to show them the albums made by this firm; and, if there is one mount that should please the worker who is partial to small enlargements, or even large ones, it is the Bulgar Mat in Cover, one of the Housh line. The printed border around the opening gives a very pleasing double-mounted effect, and as the prints are simply tucked under the mat and fastened to the cover at the hinge edge only, the finished effect is as easily secured as it is pleasing. If your dealer cannot supply the Housh catalogue, write directly to the Housh Company, East Concord Street, Boston, Massachusetts, and a copy will be sent, gladly.

New Ipsco Catalogue

This is a sixty-four page book, bound in a four-color cover, the subject for which was furnished by H. M. Bennett, manager of the company, from his famous collection of oriental subjects. The engraving shows four beautiful Japanese girls examining a collection of chrysanthemums in the gardens of the Mikado. The contents of the catalogue are thoroughly descriptive of the carefully selected "Ipsco" line, embracing practically every model of the famous Ica cameras and accessories. The miniature and pocket size cameras have been grouped with a running explanation on the merits of both and the growing popularity of miniature cameras. The hand cameras are fully illustrated with accompanying specifications and prices, and considerable space is devoted to the roll film cameras in the line. Send for a copy, addressing the International Photo Sales Corporation, 235 Fifth Avenue, New York, N. Y.

Voigtlander Catalogue and Revised Price List

We have received a copy of the current catalogue of the lenses, cameras and binoculars manufactured by Voigtlander & Sohn, together with revised price list taking effect April first, last. The Voigtlander catalogue is always most interesting and instructive on account of the informative articles it contains, and the revised price list makes the prices on these excellent lenses and cameras most interesting to the worker who appreciates good equipment for his photographic work. Copies can be obtained by addressing the American house, Voigtlander & Sohn, 240-246 East Ontario Street, Chicago, Illinois; or the New York branch, 225 Fifth Avenue, New York.

Local Concern Wins a Verdict

Word was received today (April fifteenth) by the Victor Animatograph Company that judgment has been rendered against George W. Bond, of Chicago, for infringement of the patent granted to A. F. Victor for stereopticons, May twenty-seventh, 1913. Number 1,062,622 was held to be valid and infringed by the stereopticon made by Bond. This patent broadly covers a stereopticon supported on a single base, and also the idea of converging carbons carried in the rear end of its cylindrical casing, and this decision assures the Victor Animatograph Company a monopoly of the superior stereopticon now being manufactured. Frank D. Thomason, of Chicago, was attorney for the Victor Company in any case.—*Davenport Daily Times.*

"The Magic Quarter"

Even the man who doesn't know the difference between developing paper and tanglefoot would thoroughly enjoy "The Magic Quarter," one of the cleverest little advertising booklets we have ever read. The artist, Harris, has illustrated the margin of each page in an unusually unique manner—sort of a motion-picture effect, very expressive and quite humorous. The author, Dr. Balcolm Dean Miller, needs no introduction to our readers. The fact that "The Magic Quarter" is founded on Dr. Miller's personal experience with Instanto and Platora developing papers makes the booklet unusually interesting. The booklet is one you will enjoy reading from start to finish and one you will wish to keep. We suggest that you request The Photo Products Company, 6100 LaSalle Street, Chicago, to send you a copy at once before the edition is exhausted. Mention, when you write, whether or not you have accepted their special trial offer and also say you saw it in CAMERA CRAFT.

The New Premo Catalogue

There is need of saying little more about this handsome new catalogue of a handsome line of cameras than that the copy before us is a most successful effort to maintain the high standard of the previous issues. It goes about describing this superior line in a straightforward and dignified manner that is convincing. The Premo Film Pack system makes for simplicity and lightness, and the Premo cameras, for the same reason, appeal very strongly to the ever-increasing number of camera users, both amateur and professional. If your dealer has not a supply of these handsome catalogues on hand, write directly to the Eastman Kodak Company, Rochester, New York, and a copy will be gladly sent you, merely upon request. Send for a copy at once and keep informed on the Premo line.

New Cooke Catalogue

The new Cooke lens catalogue published by the Taylor-Hobson Company is just ready for distribution. This new edition contains some valuable information never before published regarding certain common misunderstandings over photographic lenses. The information is written so clearly and concisely that it can be understood by the novice, while the advanced photographer will find these notes interesting, since they throw new light upon one or two old questions. A considerable reduction is shown in the prices of most Cooke anastigmat lenses, owing to the change in tariff, and we would advise all of our readers to send at once for a copy of this catalogue from the Taylor-Hobson Company, 1133 Broadway, New York.

From Illinois College of Photography

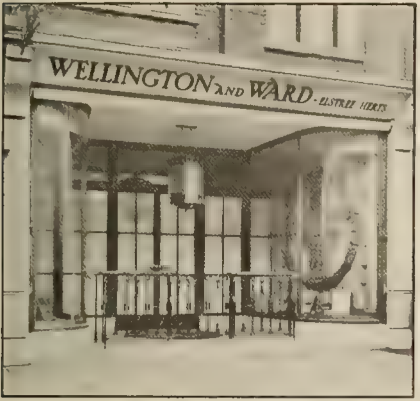
We received visits last month from Wallace Christman, 1911, and L. H. Taylor, 1907, both former students in the engraving department.

Among the students enrolling the past month were E. Komai, a Japanese; M. Kirkish, a Syrian; Lukeshich, a Lithuanian, and B. S. Fenn, an Englishman.

NOTES AND COMMENT

The Wellington Gallery

Among the many fine business premises which have recently been opened in Holborn and High Holborn (London), there is none, we think, so likely to arrest the attention of the passer-by as the new showroom and gallery at No. 101, High Holborn, of Messrs. Wellington and Ward, Elstree, makers of the famous Wellington plates, papers and films. These premises will remain open daily for the display of results on all grades of Wellington plates, papers and films; to expedite the delivery of orders; to demonstrate existing and various new products which may arise from time to time, and as a permanent advertisement.



EXTERIOR: 101 HIGH HOLBORN

INTERIOR OF THE WELLINGTON GALLERY

The design and decoration of both the exterior and interior of the gallery possesses an air of simple dignity and refinement, the illustrations herewith giving an indication of the scheme of decoration. The walls of the gallery are arranged in a series of white panels, on which are shown a collection of framed photographic pictures, in each case the results bearing testimony to the high quality of the products used.

Specially notable to those interested in exhibition matters is the plan adopted for lighting the walls by artificial light. A series of concealed electric lamps arranged in a continuous draped reflector at a distance of about four feet from the walls and at the height of the freize add to the appearance of the gallery and give a most perfect lighting for its pictures. All interested in photographic matters are welcome to call, inspect the pictures on view, make it their London rendezvous, and those desiring demonstrations of the processes used will be given every attention.

Ralph Harris & Company, 26-30 Bromfield Street, Boston, are agents in this country for and carry a full line of the excellent Wellington plates, papers and films, the several fine grades of bromide paper being particularly popular with advanced workers. Descriptive list with American prices gladly sent on request.

A Valuable Tool

The Northern Hilite Reducer, advertised on another page, is one of those effective little tools that one wonders were not placed on the market long ago. It is made of spun glass and aluminum and costs but fifteen cents. Just the thing for retouchers, making shading and etching a matter of but a few moments' work. Will not produce scratches, even when used to reduce too dark portions of bromide enlargements. Send for one and enjoy the benefits, sending, if your dealer does not carry them, directly to the manufacturers, Northern Photo Supply Company, Minneapolis, Minnesota. This firm supplies the trade at a liberal discount from the retail price.

A Valveless Shutter

The manufacturers of the Ilex Shutter pride themselves upon the fact that they are producing the only valveless shutter on the market, despite the fact that others have tried to produce a serviceable shutter free from air cylinders and other forms of air pumps or valves. They claim that their shutter, consequently, is much safer and can be guaranteed against climatic changes, dust or dampness, the action being positive under all conditions. The absence of the valve action, they claim, overcomes practically ninety per cent of shutter troubles. A mechanical release operates this shutter, and a mechanical arrangement of gears controls the speed. The claims made for their excellent line of shutters are quite interesting, and descriptive catalogues can be obtained by addressing the Ilex Optical Company, 561 Ilex Circle, Rochester, New York.

A New Reflecting Camera

For the amateur or professional who is particular there is probably no better outfit than a reflecting camera, as giving one the advantage of seeing the picture right side up until the moment of exposure. The Ensign Folding Reflecting Camera advertised in this issue is undoubtedly a new departure in cameras of this type. The whole box, when folded, is contained within a space of 6½x6½x3 inches, hardly larger than the ordinary hand camera, yet extending to an exceptionally rigid and efficient reflecting camera. You will be interested in the new 1914 Ensign catalogue, which the firm of G. Gennert, 24 and 26 East Thirteenth Street, New York; 320 South Wabash Avenue, Chicago, and 682 Mission Street, San Francisco, will mail to readers of this magazine, postage prepaid, upon request.

A Desirable Feature

The Ensign Focal Plane Shutter is worthy of a special note, it being impossible to overwind this shutter. A single dial permits of changing speeds and a slight pressure on the release key releases the shutter. This feature permits a greater unison between the eye and shutter release than is usual of cameras of this type. The fitting is the well-known Carl Zeiss lens, f-4.5. The camera user will appreciate a model of such compact size. You will be interested in the new 1914 Ensign catalogue, which the firm of G. Gennert, 24 and 26 East Thirteenth Street, New York; 320 South Wabash Avenue, Chicago, and 682 Mission Street, San Francisco, will mail to readers of this magazine, postage prepaid, upon request.

A New Plate Camera

A very neat little model of plate camera, in fact, very good value for the money, is the Klito Plate Camera advertised in another page of this issue. It has all the refinements and beautiful finish of the very expensive models of cameras and yet can be secured at a reasonable price. It makes an ideal vacation camera for plate users. Send to G. Gennert, 24 and 26 East Thirteenth Street, New York; 320 South Wabash Avenue, Chicago, and 682 Mission Street, San Francisco, for catalogue.

Well Known Geologist Stricken

Dr. J. C. Hawver, geologist, died unexpectedly at his home here (Auburn) today (May fifteenth) from heart failure. Dr. Hawver had a national reputation as a geologist, having been selected on several occasions by the University of California to make explorations in adjoining States. He was the discoverer and owner of the famous Hawver limestone cave in Cave Valley, El Dorado County. His geological specimens formed the largest private collection in the State. He was a native of California, 60 years old, and leaves a widow, a cousin of Congressman Kent; a son, and two married daughters.—*San Francisco Examiner.*

"What Lens Shall I Buy?"

This is the title of an excellent and informative booklet that has been very popular with photographers, judging by the requests which have poured in for it. A new edition has been found necessary, and in getting it out the publishers have taken the opportunity of revising the prices for their excellent and complete line of photographic lenses. Any of our readers who may desire one, can secure a copy of this new edition free of charge, by writing the Bausch & Lomb Optical Company, 624 St. Paul Street, Rochester, New York.

Illinois College of Photography

The College Camera Club held its monthly contest on the fifteenth. The prizes were won by Messrs. Hopsecker, Hill and Zimpfer.

Carl E. Lee, student of 1906, made the college a visit the past month. W. M. McCoy, engraving student of 1905, also dropped in to see us.

Mr. Southworth, inventor of the Southworth Flash Machine, spent several days at the college last month demonstrating his apparatus.

Prof. C. W. Fisher has had additional greatness thrust upon him. He has been elected alderman of the city of Effingham from the Third Ward.

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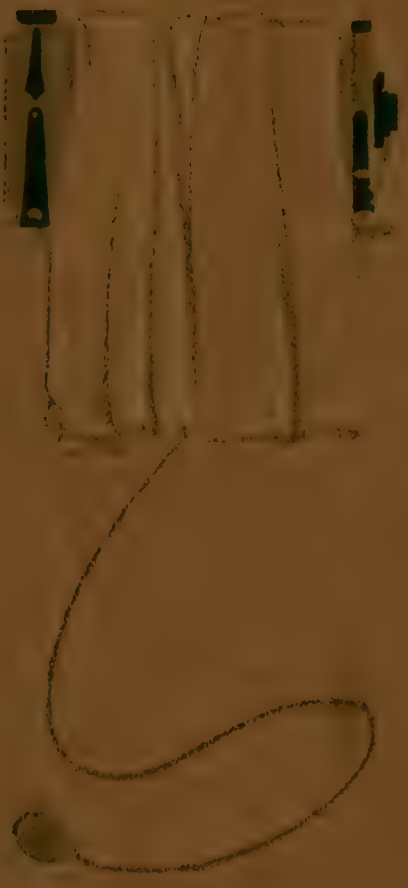
CAMERA CRAFT



SAN FRANCISCO
CALIFORNIA

If

If your prints lack roundness, color and life—stereoscopic effect;

If your sepias look yellow, washed out and without the rich Vandyke brown every one desires;

If you fail to make a hit with your pictures;

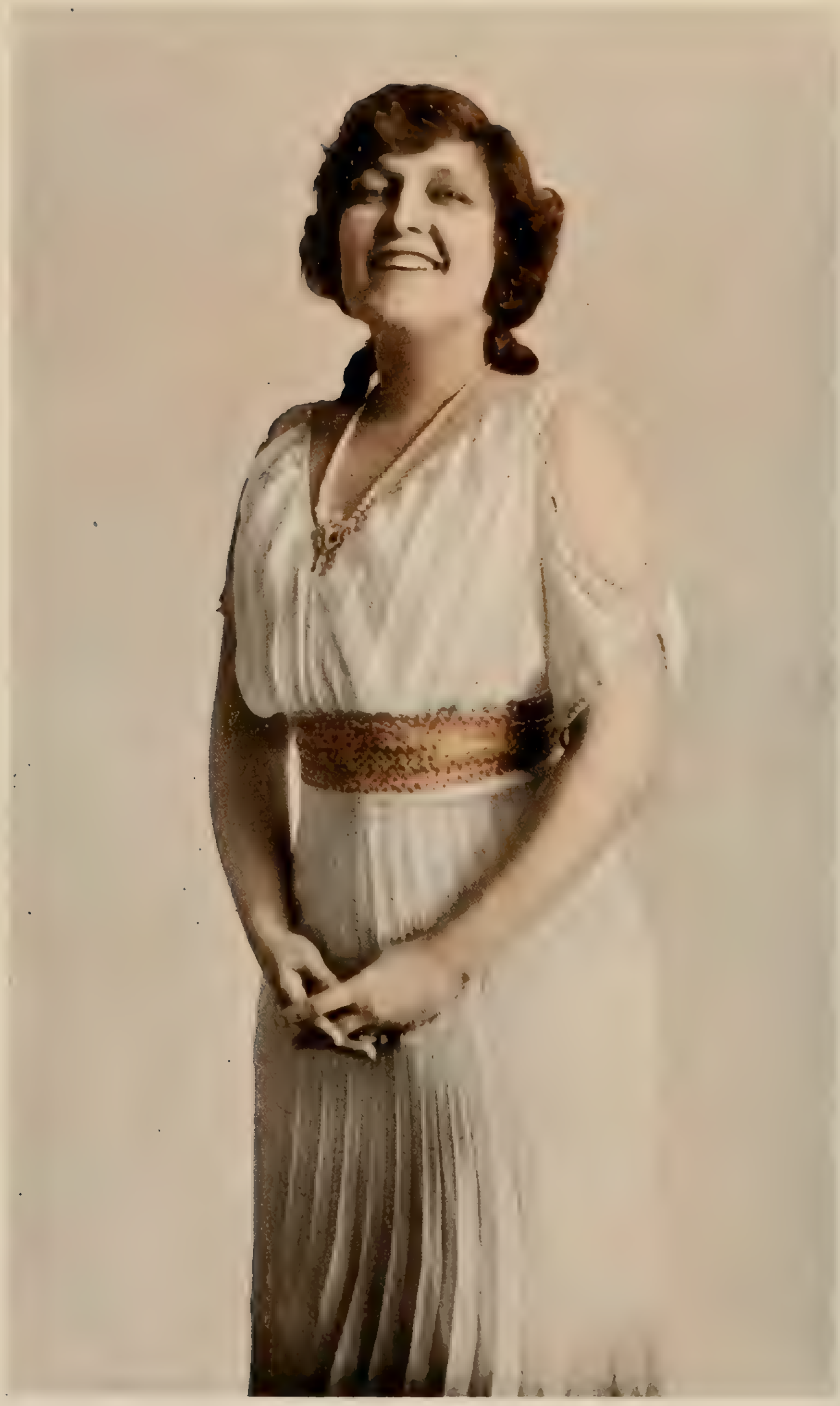
Consult a

Cykologist

CYKO Paper is the base of every good print, the reason back of every prize-winning picture, and the foundation of all photographic successes of recent years.

ANSCO COMPANY

Binghamton, N. Y.



MISS DANIELS
By TERKELSON & HENRY

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY
FAYETTE J. CLUTE, Editor and Proprietor
CALL BUILDING SAN FRANCISCO CALIFORNIA
VOL. XXI JUNE, 1914 No. 6

Lick Observatory, Mount Hamilton

By Carl A. Bergmann

With Illustrations by the Author and Another

No doubt many more tourists would include a ride to Mount Hamilton in their itinerary when visiting California, if they only knew what a delightful trip it is and how many highly interesting things they could see on the summit, at the Lick Observatory. Even residents of this State are, or seem to be, unaware of this, or they surely would furnish a much larger percentage of visitors than they do now. Many, perhaps, know that the general public is allowed the use of the large, thirty-six-inch telescope on Saturday evenings only, and believe it not worth while to go so far for the privilege of having a look through it for a few minutes, even if it has the second largest lens in the world. But as a matter of fact, there is much more to be seen, not only on Saturday evenings, but on every day in the week.

Visitors are welcome to go through the buildings any day, and there they may find much to interest. They will be conducted by an attendant, who will explain the different objects, instruments, pictures and transparencies; and, although they cannot look through the telescopes, except on Saturday evenings, they may go into the domes and have a look at them. A hall, about two hundred feet long, contains five cases of transparencies, illuminated by electric lights. In the first, starting from the north end of the hall, we see a number of eclipse stations in different parts of the world, where the director from this observatory and members of the astronomical staff observed some total eclipses of the sun. Here are also transparencies showing the result of their work. In the next one are sixteen transparencies showing different comets. The third

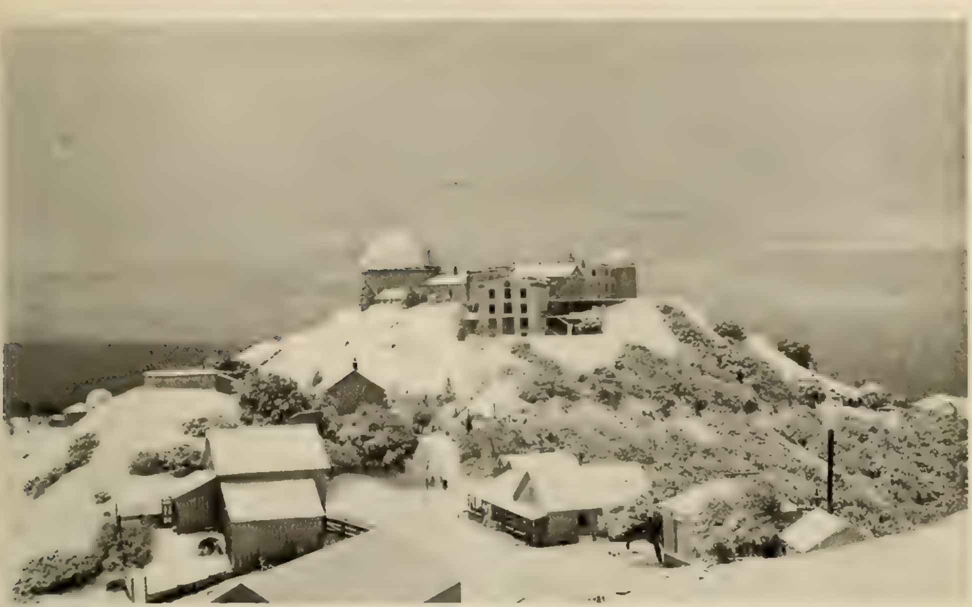
LICK OBSERVATORY, MOUNT HAMILTON, IN WINTER

one shows thirty-two views of Halley's comet, the Crossley dome and the thirty-six-inch Crossley reflector. Another case contains transparencies of the moon, the milky way, the Mills Observatory and thirty-seven-inch reflector of that Chilean observatory, and several spectographs. In the fifth and last one we find fifteen transparencies of different nebulæ, the most phantastic and mysterious forms in the visible universe.

Besides this most interesting collection of transparencies, there are pictures and photographs, as well as drawings, of planets on the walls. Then there are the seismographs, which register earthquakes, other instruments which record the velocity of the wind, the rainfall, the temperature, etc. The intelligent visitor who will study, not skim over, these different things will find much food for reflection and thought and would feel amply rewarded for the trip, even were there nothing else to see.

But what a magnificent view is spread out before us!

Mountains nearly as high as our own, divided by gorges and canyons, surround us on three sides. Toward the east we can see the Sierra Nevada with its pink snow tops, if the day is clear; to the south, Mt. Izabel is close to us; to the west, Hall's Valley; and beyond, the beautiful Santa Clara Valley with the city of San Jose clearly visible. To the north rise mountains after mountains, Mt. Tamalpais and Diablo being among the most important. One can see the houses and streets in San Jose; and, in the evening, the city lights look beautiful, twinkling like stars. The lights of Los Gatos and several other communities can also be seen, while a bright glow shows where larger and



LICK OBSERVATORY, MOUNT HAMILTON, IN A SNOW MANTLE

ABOVE THE SEA OF FOG—MOUNT HAMILTON

more distant San Francisco and Oakland are situated. Now, if all these good things are not enough for you, we still have a few more in reserve, but can furnish them only at certain seasons. Imagine the surprise you would experience when, on a beautiful day in the early spring, you leave the Santa Clara Valley, its thousands of trees covered with blossoms, wild flowers everywhere; and, arriving on Mt. Hamilton, after a motor ride of about three hours, found the top covered with perhaps six inches or more of snow! Yes, real virgin snow. Perhaps it will surprise you, as it has many others, to hear that up here snow falls every winter. Not as frequently perhaps as in the Eastern States, but often as heavy. Occasionally several feet of snow have fallen, nearly covering some of the lower situated dwelling houses. However, it never stays on the ground long, rarely more than a few days. The reason we have snow here lies in the altitude, Mt. Hamilton being four thousand two hundred and nine feet feet above sea level. The first picture shows such a winter scene. It was taken some years ago by a member of the astronomical staff. The second one was taken by myself on the twenty-ninth of March, this year, when we had a snowfall of six and one-half inches.

Another view which has enraptured many a visitor is that of the fog as seen up here. Ordinarily, fog is anything but a pleasant sight, but when one is above it, in the sunshine, the fog far below in the shape of an immense ocean, so downy and soft, it certainly looks beautiful. What was Hall's Valley and Santa Clara Valley before, then apparently as a vast sea, stretching out until it meets the distant horizon. Occasionally the top of a mountain may pierce through and thus form an island in this creamy sea with its billows and waves in constant changes and motions. A sunset into this ocean of billowy fog is a most beautiful picture to behold.

Success does not mean the mere accumulation of money. That is but a part of the success of which I speak. There is a success greater than the mere accumulation of money. It is the accomplishment of a worthy purpose, the development of yourself and your associates, the creation in yourself of the qualities of leadership. It includes a broadened vision.—HERBERT EDWARD LAW.

The Small Town Photographer

Illustrations by Various Workers

Editor's Note.—*This excellent article, much to our regret, must be presented without the author's name owing to the original manuscript being unsigned and evidently becoming separated from the letter which it no doubt accompanied. This meeting the eyes of the writer, we will be pleased to have him acknowledge the authorship, that credit may be given in a note in the editorial department of the next following issue.*

TIRED OUT By F. W. GERTSON

HELP Wanted: Man who is a good merchant, a live salesman, an artist in both portraiture and landscape, a manufacturer, a fair mechanic, and with some knowledge of chemistry, advertising, bookkeeping, photographic optics and window dressing. Must be neat in appearance, cheerful, able to handle children and make friends generally. A good, comfortable living and pleasant work for the right man. Apply: Any Studio, Any Small Town.

With such a staggering list of requirements of so varied and opposite a character, it is really surprising to find so large a number of photographers making good. Bearing the demands of the above advertisement in mind, we can be more charitable in our criticism of the many who are not developing or making use of the opportunities that we feel are offered in their individual fields. More, we can feel no little pride in the large number who are earnestly working to place their profession on a plane that commands respect.

It is safe to say that almost every town of fifteen hundred or more population will support a well-trained, live, hustling photographer, and do it well;

while there is usually room in the same town for one or two weak members of the profession to slowly starve. The public is prone to relegate the professional photographer to the same plane in their minds as is occupied by the dollar camera, and the push-the-button amateur, regarding lightly his many hard-earned accomplishments. All professionals are compelled at times to realize this tendency and it is dependent upon them, and them only, to force a proper recognition of themselves and the value of their work from a somewhat reluctant public. This educational work must be maintained unabated every minute of the time, and a starting point is with the amateurs themselves. Hunt them out, every one, man, woman, and child, for miles around. Take an honest interest in their work and in helping them to improve. Teach them cheerfully, and freely, carry supplies for their cameras, do their work carefully and well, make them understand what is being done for them, encourage new ones to start, sell them cameras, and above all, make a loyal friend and booster out of every single one. Their opinion of you and your work carries great weight among those making up their circle of friends; therefore, as a matter of good advertising policy, see that the weight is on your side of the balance. Both their trade and their finishing work are profitable, and the small-town photographer of today who, on account of antiquated ideas, throws away the direct and indirect profits from this side issue is taking in at least two of the requirements of our advertisement, with probably a liberal amount of short-sighted and bull-headedness taking their places.

Do not stick around indoors all the time; get outside and freshen up. That view camera was bought for use. Make it work, and do not be afraid to speculate with it. Get a good collection of local views, and then keep trying to make it better. Print the best ones on post cards and control the post card trade of your county as far as you can reach. Have your name on every one; it is good advertising. Get in touch with the real estate dealers, and any others who might use photographs in advertising. Send good prints to the passenger department of your railroads, asking for transportation in return. Let them know that you do such work, do it well and that you are on the spot when they want views in your locality. Get some of your work into the local papers and magazines and then keep copies of the publications in the reception room. Published photographs impress your patrons with your importance. Go after every bit of view work in sight, as it keeps you before the public. Teach them to expect you, with your camera, at every wedding, family reunion and public function in your town. Get up a good set of lantern slides to show at entertainments, church fairs, and the like; show them, along with some slides of well-known people in your own town and those close by, and do not forget to have your name on everything. Advertise moderately but continuously in the local paper. Never allow your neighbors to forget you. Mix with them, keep track of them, and do it all the time. Keep watching for the birth announcements and drop the mother a couple of attractive post cards showing grouped baby pictures, a short time after that new baby arrives. The first time you meet the fond mother, suggest a sitting for the baby. Do not forget this and do not let her forget that a picture should be taken. She will appreciate your attention.

Get up a card index showing the birthday of every child. Send a post card to the child as each birthday comes around, suggesting a sitting. Look out for family reunions and get the groups, even if you have to go some distance to the house with the view camera. Watch for new buildings and any other new development that you can photograph. They are all good prospects, and speculation work, in small towns, is looked upon much as a kindness. Even in a small territory there are so many such opportunities that it will be found hard to keep track of them all; but do it, no matter how hard, and get there a little ahead of the other fellow. Do not stay at home because there may perhaps be nothing in the job, but waste a plate. So doing will usually lead to something else. Get the fresh air, brighten up both mind and body, and put this freshness into your business. Keep yourself youthful and lively; it pays in so many ways. With a little care and effort one can be young at seventy.

AN ALASKAN BELLE By M. H. CHURCH

Do not overdo the matter in telling your patrons what they should have. Give them a chance and sell them what they really want. If there are many foreigners in your district, they will probably want bust pictures with large heads, on hot burnished solio prints on narrow-margin cabinet mounts, with white, over-retouched face. Make what they want and make them at a fair price. They want pictures like the ones that the folks at home are sending to them, to be sent in return. Be nice about it, and be sure of the white faces, particularly for dark-complexioned races. They are sensitive about this and that prevents their asking for it. A few experiments will quickly show which side of your bread is buttered. I know of a wealthy Italian banker who visited six different city studios, in search of this style of work. Did he get it? He did not. Instead, shining lights in the "receptionist" class all but insulted him for his old-fashioned tastes. The work finally went to an ordinary view man at a good price, and that view man made an influential friend. When you make pictures of their houses, forget all about depth, atmosphere, tone, etc. Stop down and get microscopic sharpness, and make brilliant, snappy prints. This is a perfectly safe rule to follow in all view work; at least until you know positively that the customer really wants and will appreciate something better.

Subscribe, by the year, for two or three good photographic journals and study them. When you order stock, get, occasionally, some of the many good books published to help you, and then study them. Study the examples of work in the current magazines. If you can get no benefit from so doing, you are a candidate for dry rot and the starvation class. I once found in the dark-room of a really successful man a pulpit-like arrangement supporting an enormous scrap book with a reading light conveniently arranged above. He called it his "art bible." Examination disclosed pages of carefully arranged and indexed prints cut from magazines; profiles, full faces, busts, half lengths, etc., all arranged and grouped according to the lightings so as to be instantly available. As each one was inserted, it was carefully studied and a few concise lines added beneath, giving camera height, lighting, accessories, etc., as a quick aid in duplicating the pose. Many of his own successful prints were included. In practice, he first found out in the reception room about what the customer wanted; then, leaving the sitter in the dressing room, he would consult his "bible" and decide on the pose to be first attempted. Reloading the plate holder gave him an excuse for finding as many successive poses as desired, poses best suited to the subject, and the slight delay also gave the sitter restful breathing spells. This man's weak point was originality; and, realizing it fully, he made methodical use of the ideas of others, just as we all do, though perhaps unconsciously.

A HOME PORTRAIT By H. L. MALONEY

Spend a few dollars and install a flashlight cabinet. Then all fear of squirming babies, nervous sitters, and the inevitable one who wants that ———

dear poodle included, vanish like an early morning mist. And when mother asks for the baby's smile or pout, how absurdly easy it becomes with a flash available. It is a great advantage to be independent of daylight conditions and to be able to catch those brilliant flashes of expression and make them a permanent fixture in your prints.

Invest a few dollars and a lot of thought in your work-rooms. Wood and good photo varnish are so cheap that there is no excuse for lack of sink room, trays or washing boxes. Remember you are a manufacturer, and that the success of a factory depends largely upon proper equipment. A closet is no fit place for a white man to work in. Have plenty of room and good ventilation, even if it takes half your reception room to get it. Install a printing machine. The Century is a good one, and will insure prompt deliveries, uniform work and a great saving of time. Do not sacrifice half your profit through waste of time and material due to working in a cramped and poorly equipped manufacturing plant. Some day we will have efficiency experts who will come around and arrange these things for us, just as they do for other manufacturers. Until then, put a lot of thought in your work-rooms. Study each movement, each operation, and eliminate every useless step. Energy and time can be as easily wasted as material, and their waste should be as earnestly avoided. For example, keeping the shelves and room well dusted with a damp cloth will be found an economy. Oil the floor, put cheese-cloth screens on the doors, windows, and ventilators; keep your negatives dusted while printing, and, doing this, nearly all your spoting is made unnecessary.

You must be an artist, an advertiser, a merchant, a salesman, a mechanic, a manufacturer. You cannot excel in all these lines, but study your weak points and use the experience of others to strengthen them. Where you cannot originate, copy. All successful business men take advantage of improvements devised by others, and you should profit by their example.

I am inclined to think that there are no little things with God. His hand is as manifest in the feathers of a butterfly's wing, in the eye of an insect, in the folding and packing of a blossom, in the curious aqueducts by which a leaf is nourished, as in the creation of a world, or in the laws by which plants move.—Sir Fowell Buxton.

The Nature of Light

By Raymond A. Cogswell

With Illustrations by the Author

Editor's Note: *This article is one of a series of five, the other four dealing in turn with: The Theory of Color, The Quality of Light, The Problem of Exposure, and Exposure and Interpretation. However. each of the five will be separate and distinct and none will be dependent upon any other. Mr. Cogswell has contributed this series in the hope of awakening the average photographer's interest in the science that is just outside of his observation and reading. He himself has found the vistas that may be opened out from photography to be very interesting; in fact, he suggested to Hamilton Wright Mabie some years ago, a plan whereby the camera could be made to share with the piano-player its value as a means of acquiring culture by those whose ambition and curiosity,—and love of beauty, were sufficient to carry them forward, and Mr. Mabie elaborated this idea in one of his later articles.*

Mr. Cogswell feels that much of our current photographic literature is a repetition of rules and formulae which betray little sympathetic artistic insight and which leave the fundamental scientific principles essentially untouched. The task of bringing into this series all that could be said on the subjects involved is indeed quite hopeless. To suggest the broad scientific principles underlying our common photographic experiences rather than to be explicitly instructive regarding them, has been the author's endeavor.

Our pages have contained many articles dealing minutely and thoroughly with the practical side of photographic technique; but Mr. Cogswell tells us that it is a desire to reach beyond these to the underlying science, to touch with a critical but kindly appreciation the esthetics of the art, that has led him to make this modest effort at authorship. It is the author's wish to afford his readers some suggestion of the thrill of discovery that awaits them, should they venture on a voyage of exploration into the physical sciences and the fine arts.

The endeavor of the photographer, be he idealist or technician, is to produce a picture that shall be the counterpart of the visual impression made upon him by the subject photographed. His knowledge of the subject, its form, color, motion, and, if he be an idealist, its "inner meaning," is reached solely through the sense of vision, interpreted through a life experience of vision and other sensations from similar subjects certainly, but for the immediate and direct knowledge he is entirely dependent upon a physiological process, that of perception of light sensations.

To the physiologist, light consists of those ether vibrations to which the human eye is sensitive, therefor, from the physiologist's point of view the science of optics is confined to the study of only that small part of all possible vibrations which lie within the range of visual perception. The physicist, on the other hand, studies light as a special case of an electromagnetic disturbance of ether. Consider, for example, an electric arc. Obviously, a wide range of ether vibrations radiate from the lamp, and can be measured by means of suitable physical apparatus through the production of heat, visual or chemical effects. But in view of the physiological definition noted above, only such vibrations can be called light as reach the sensory apparatus in the eye and send a stimulus to the brain which results in their perception.

THE WATERFALL

The photographer is concerned with both view points, the physical and physiological. His ultimate problem is the interpretation, after his own manner, of the visible world, perhaps as a recorder of observed facts, if he be a worker in scientific or commercial lines, or as a revelation of beauty, if he be of an artistic temperament and his endeavor lies in the field of portraiture or art photography. In either case his chemical processes are the same, Light is the real medium in which he works. It is the aim of this paper to give a brief and non-technical outline of this phase of photographic technology, but from a viewpoint perhaps unfamiliar to the average photographer. Incidentally, to suggest the realm of poetic imagination which unfolds from the purely theoretical and scientific side of the subject.

The present electro-magnetic theory of light was expounded by Clerk Maxwell during the middle of the nineteenth century. It waited a third of a century for experimental confirmation at the hands of Herz and his successors. It is no longer an hypothesis, but it is today the generally accepted theory which accounts for the numerous phenomena of light, heat, and electricity. Indeed, in its ramifications it may be said to take account of the entire subject of atomic and molecular physics.

This theory postulates the existence of a fluid medium so tenuous as to be imponderable for any concepts which we can form of it. This medium is all pervasive, probably beyond the limits of the visible universe. What is its ultimate nature is a question for metaphysical speculation at the present stage of our knowledge.[*] Some day methods of experimentation may be devised which will give some clue to its essence, but for the present this question must be regarded as being beyond the scope of physical science.

The ether is elastic and is, therefore, capable of transmitting disturbances or shocks that may be produced within it; furthermore, on account of the elasticity, the form of propagation of the disturbances must be a periodic vibration or surging to and fro until the force of the shock is dissipated. This form of movement produces a wave. A great many different things may operate to set in motion a train of ether waves; the discharge of lightning, or, on a smaller scale, the spark discharge used in wireless telegraphy may generate a bundle of waves of varying lengths, ranging from a mile or two down to one-tenth inch.

The collision of molecules, of which all substances are composed, generate much shorter waves, which are called, collectively, heat. On account of the minute size of these molecular particles, the resultant waves are very short, ranging from about one four-hundredths to one thirty-thousandth of an inch. The heat sensations which we perceive when near a red-hot piece of metal, for instance, are composed of a jumble of vibrations of this order which are capable of stimulating the hot and cold spots of the skin and setting up a nerve impulse which the brain interprets as sensation of warmth. These heat waves are analogous to sound waves in air in general form and mode of propagation, but they are very much more rapid in rate and very much more smaller in size. The jumble referred to would correspond to a "noise" in sound.

If now, through some means, the rate of ether vibration be still further increased, we have a series of vibrations still more rapid than those producing heat sensation, and also of still shorter wave length. These vibrations are capable of producing some chemical transformation in the tissues of the retina of the eye, which being interpreted by the brain produces sensations of light. The range of light vibrations is from about one thirty-three thousandths inch for the lowest red to one sixty-five thousandths inch for the highest violet. There are known to be vibrations of a still higher order having wave lengths much shorter than those of violet light. These, however, are beyond the range of our vision, so that our evidence of their existence must come by indirect means. These waves are sometimes called actinic light because they effect direct chemical reactions in certain sensitive substances by having their energy absorbed and transformed; for example, the reduction of Ag Br, or the combination of moist H and Cl. It is not correct to say that these high period vibrations are alone capable of setting up chemical reactions. The lower frequency light waves are, for some substances, equally efficacious, as for example, the rays which, in vegetable organisms, transforms $\mathrm{CO_2}$ and $\mathrm{H_2O}$ ultimately into starch and cellulose, or which affect a specially sensitized emulsion of Ag Br. Beyond the shortest ultra-violet waves observed there is a gap in the series of ether waves until a wave length of about two billionths of an inch is reached. Ether vibrations of

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[*] One suggestive concept regards the atom and its surrounding ether as a sort of miniature solar system in which the electrons are the planets; a sort of micro-cosmos of an order infinitesimal compared with our solar system, perhaps as the differential "dx" is infinitesimal compared with "x" in the calculus notation.

THE OLD OAK TREE

these incredibly small dimensions are emitted from radio-active substances and are also produced by the impact of electrons on various substances. The electron is the smallest known particle, having a mass equal to about one one-thousandths of that of a hydrogen atom, and carrying a definite charge of negative electricity. The cathode ray is a stream of these electrons moving at enormous velocities; their impact on the glass walls of the X ray tube generates X rays, which are ether waves of the dimensions referred to above.

There is, then, known to be a series of ether vibrations of all wave lengths from a mile or two down to one or two billionths of an inch, with the exception of two gaps, one between the shortest electric waves and the longest heat waves, and the other between the shortest ultra-violet waves and the X rays. That waves covering these gaps exist, is entirely reasonable to suppose. Our ignorance of them is due to lack of experimental facilities. The shortest electric waves are produced by a spark coil of the smallest practicable dimensions, while the longest heat waves proceed from collisions of the larger molecules or perhaps from the particles observed in "the Brownian movement" through the ultra-microscope. If we could build a coil as small as these Brownian particles, no doubt we could bridge the gap in the waves series. The vibrations which we call light, and especially the vibrations beyond the visible spectrum, ultra-violet or actinic rays, probably proceed from the disturbances produced in the ether by particles of atomic dimensions. These rapid vibrations seem to indicate a precision of movement in the exciting particles since the waves come to us in well defined periods which produce sensations of correspondingly definite colors, if within the visual range. Each chemical element appears to have a rate or rates of motion peculiar to itself which sends out ether pulsations or vibrations of definite periods, and consequently, gives waves of constant length, that is constant for that particular element. The reason for this constancy is to be sought within the structure of the atom itself; possibly the peculiar arrangement of the component parts of the atom (the electrons) gives the atom a resonance which determines the rapidity and regularity of its motions—like a tuning fork which can vibrate to a single tone only. The smallest waves of all, the "gamma rays" of radio-active substances, and the well known X rays, proceed from the collision of particles of sub-atomic dimensions: e. g. disturbances set up by the disintegration of atoms (radium), or from moving electrons bombarding the walls of an X ray tube. These rays are so small that they penetrate opaque bodies readily.

In order to aid the mind in forming an imaginative concept of this electro-magnetic theory, let us consider an analogue in the motion of air particles. Air, the medium through which sound is propagated, is of a ponderable nature, but the general laws of wave motion are the same as those governing electro-magnetic ether waves. Physiologically speaking, sound consists of air waves which, through the mechanism of the ear, produce sensations in the brain. The rate of such vibrations lie between about sixteen and sixteen thousand per second (in air). Undulatory air disturbances exist above and below these limits. It is believed that certain insects have sense organs capable of perceiving air vibrations above sixteen thousand per second, and that on the other hand, most species of bats are equipped with a sort of modified ear which perceives air waves of comparatively low periods, perhaps from two to six per second. Such vibrations would be perceptible to human beings (if at all) merely as slight puffs of air. Air has an appreciable mass, a cubic foot weighs seventy-six thousandths of a pound, and a column an inch in area and extending to the upper limits of the atmosphere, fourteen to fifteen pounds, according to locality. However, to a miraculous being, say one as much larger than a human being as the latter is larger than the lowest form of organized life which has been discovered (the smallest species of bacterium known); to such a creature, air, as a substance, would be well nigh imponderable. Indeed, the air would bear some such relation to this being as the ether does to us, and the vibrations which we know as sound, would be to him of some such order as light is to us, provided he had a sense organ capable of perceiving the vibrations of air (his ether) which constitutes our sound. An idea of the vast difference in the vibratory systems of light and sound can be gained from a consideration of their velocities. The speed with which sound travels in air at ordinary temperatures and pressures in about one-fifth mile per second, in the same light would have traveled one hundred eighty-six thousand miles or nearly one million times as far through the ether of space.

Considering light physiologically as a particular case of a general phenom-

FAIRY STORIES A REAL COWBOY

enon, the photographer then, is interested only in the series of electro-magnetic vibrations which are perceived by the eye, unless he uses plain plates or plates without a color screen, or makes X ray photographs. In the latter case his interest extends into the higher vibration periods. However, since such waves do not excite vision, his rendering of them alone or in predominance would give an unreal interpretation of what the eye sees, and generally speaking, would be undesirable. It is possible, by means of a quartz lens covered with a thin film of silver, to make it opaque to ordinary visual light, to take a photograph by means of ultra-violet light alone. Such photographs show all objects in a gray diffused light in which the blue sky is always white. There are no shadows cast even in direct sunlight, for the reason that the extremely short wave lengths of this light cause it to bend around the innumerable particles always present in the air. This operates to diffuse the ultra-violet light before it reaches the air stratum in which we live. Photographs may be made also by "infra-ren" or heat waves of longer periods, ordinary light being excluded by a screen transparent to heat waves, but opaque to light. Such photographs show the sky absolutely black, as also must most of the shadows. The white portions are those receiving light from directly overhead. Photographs of this sort have no pictorial value, giving as they do an utterly distorted view of nature. They have, however, a scientific interest, and are occasionally capable of technical application. Photographs made by means of the shortest waves of all, the X rays, are well known in their general characteristics. Such pictures show the subjects photographed in opacities proportionate to their atomic density; i. e. proportionate to the complexity of their atomic structure.

I think the most happy and heart-filling thing in the world is to come face to face with something which no one but God ever saw before.—JEFFRIES WYMAN.

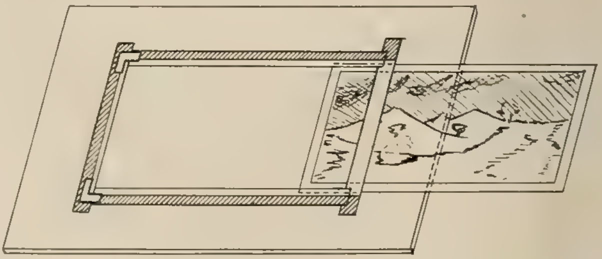
A Film Printing Mask

By A. D. Miller

With Illustrations by the Author

ROADWAY, VANCOUVER BARRACKS.

OVER a year ago, Mr. Carlton described a post card mask for use with films. He said: Take a 5x7 glass and lay a spoiled film negative of the desired size thereon. Then take passe partout binding and go all around the edge, covering just enough to give the desired white border to the card, sticking down the binding only where it comes in contact with the glass at the sides and across one end. The strip across one end of the film is attached only at the ends, that part covering the edges of the film at the sides and at the other end being left free. It will be seen that the old film can be slipped out from under the unattached end and the film to be printed inserted in its place. Two little angular pieces of white paper are pasted on two corners of this mask to serve as register marks in placing down the cards. The illustration shows the arrangement of the strips quite clearly. The unshaded parts of the strips show where they are left unattached to the glass, these unpasted portions allowing the film to be slipped out and a new negative slipped in whenever a change is wanted.



For a long time I used a similar arrangement for my 2¼x3¼ films with perfect satisfaction, but made modifications in one or two particulars that seem improvements. Instead of pasting passe partout binding around the edge of a spoiled negative, which I found pinched the film too closely to the glass and made it difficult to slide it into place, I first paste strips cut from a business or calling card around three sides of the space on the glass to be occupied by the negative, leaving plenty of room for the latter to fit loosely. Over these strips I paste a piece of black paper having a rectangular opening cut in its center the size I want the negative to print. In the case of 2¼x3¼ negatives the opening is 2x3, but the opening can of course be any smaller size desired. This black paper mask is pasted down only on the three sides occupied by the cardboard strips, leaving the fourth side or end free so that a negative can be slid into place under the mask, just as Mr. Carlton advises.

To register the post card, Mr. Carlson uses pieces of white paper at the corners. I prefer a strip of thin cardboard along one side and one end. Then I only have to push the post card up against these two guide pieces and I know the print will be exactly in the right place. This method can be used for any size or shape of film, and prints made on either post cards or any size or shape of paper, with perfect assurance that the white margin will be of the same width all round, provided the two register strips have been accurately placed. With a good many of my 2¼x3¼ negatives I find that a mask 1¾x2⅜, if rightly placed on the film, will include about all there is of interest in the picture, so I prepare my printing mask as above, except that the opening is 1¾x2⅜. When I paste the first strips on the glass I put them far enough apart so as to allow a good deal of play under the mask for the film negative; in fact, I provide for enough play so that almost any part of the negative may be brought under the 1¾x2⅜ opening in the black paper. I have never had a negative slip when using this mask, and the thin cardboard strips hold the mask far enough away from the glass to permit the film negative being slipped in or out without the least trouble.

For 4x5 glass plates I use a somewhat similar arrangement. They are printed in a 5x7 frame, fitted with glass. A piece of heavy pasteboard as thick as a thin glass negative is cut 5x7 to fit the frame. As I do not have any thick pasteboard at hand, I paste together two of the thin pieces that most laundries

OLD DAM, OUTLET LAKE TAHOE

A 6 P. M. "MOONLIGHT" EFFECT, LAKE TAHOE insert in shirt bosoms, giving me a sheet of about one-sixteenth inch in thickness, answering admirably. In the center of this 5x7 piece I cut an opening that is just a trifle larger than 4x5 in size, so that a 4x5 negative will fit without squeezing and yet without appreciable play. Over this I paste a black paper mask having an opening 3⅝x4⅝. A negative placed in the 4x5 opening in the pasteboard will then have three-sixteenths inch masked off on all four sides by the black paper. This, in my case at least, is sufficient to cover up all defects on the edge of the negatives. It is evident that this mask opening can be made any smaller size desired. The only thing remaining to be done is to paste on a couple of cardboard strips to act as a register for the size of paper being printed, and the mask is finished. I use two of these masks, one with an opening as above described for 4x5 printing paper and another one with a mask opening of 3⅛x4⅝ for post cards. On this latter my register strips are so pasted that the print comes towards one end of the postal; that is, the white margin on three sides of the card is three-sixteenths inch and on the remaining side eleven-sixteenths. I use this latter space for writing in the title of the picture. As soon as the mask is made, it should be put under considerable pressure for several hours, to permit the paste to dry thoroughly. It will then lie flat without any tendency to curl. To use one of these masks, I lay my negative in the center of the printing frame, drop the mask over it, place the paper over the mask and against the register strips, close the back of the frame, and I am sure that the resulting print will come out with perfectly even margins, provided accuracy was observed in the construction of the mask.

Like many others, I mix my own developer. I carefully weigh out each chemical, using scales that are supposed to weigh to one-half grain. I find, however, that anything under four or five grains is difficult to weigh accurately. The formula I use for Cyko paper calls for potassium bromide one grain. This is bothersome to weigh out and I have hit upon a far better plan. I long ago learned that drops vary greatly in size. So I bought, for ten cents, a good-sized medicine dropper containing a spherical enlargement about half way up the tube. This is to make it impossible for liquid to be drawn up into the rubber nipple. With a little experimenting I found that if I used a fifteen per cent solution of potassium bromide, ten drops from the medicine dropper contained just one grain of the bromide, or one-tenth grain per drop. That is all there is to it. If I want to add one and one-half grains of potassium bromide to a solution, fifteen drops from my fifteen per cent solution does it. I use potassium iodide solution in the same way, the controlling idea being that the strength of the solution be made such that one drop from the dropper will contain just one-tenth grain of the chemical. The number of grains of chemical per ounce of water required to do this is noted on the label on the bottle containing the solution, so that at any future time the refilling of the bottle requires simply the weighing out of the amount called for on the label and the addition of the necessary water. The method proves accurate, cleanly and very convenient.

Why suffer with ingrowing toe nails? A year's subscription to this magazine costs you only one dollar.

The Operating Room

By Lawrence Siebeneck

With Illustrations by the Author

PORTRAIT OF THE AUTHOR

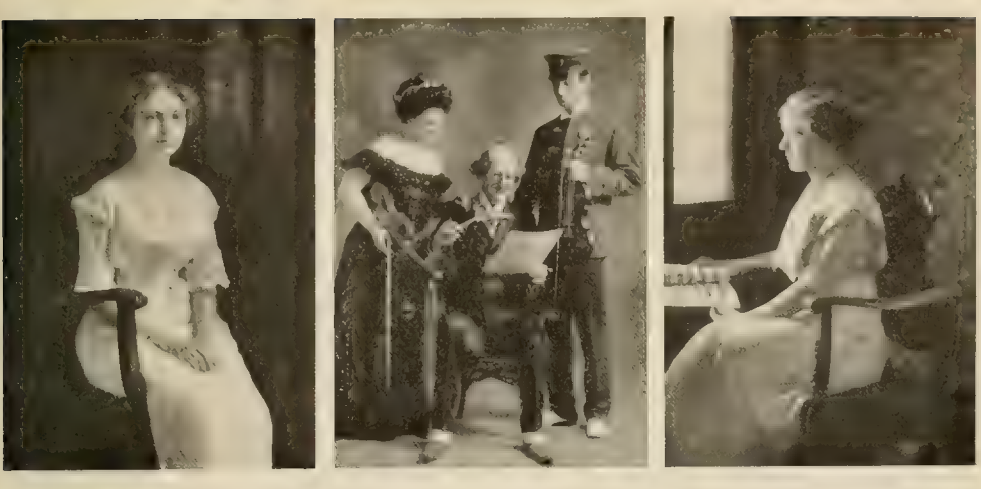
Standing on the street corner of a small Virginia village not long ago, my attention was attracted by a political speaker who was expounding the merits of a certain political party. His audience of listeners consisted chiefly of a laboring class of people and a few inquisitive newsboys and Western Union messengers. The speaker was an eloquent orator, but his audience did not seem to appreciate his esthetic form of speech. In order to arouse more enthusiasm and attention to the cause he was so vehemently expousing he related the following story:

Two men were walking along a country road when they suddenly discovered a turtle. They watched the queer antics of the creature for quite a while, when finally one man suggested that they cut its head off and have a delicious turtle soup. The other agreed, and they at once set about performing the task. The execution accomplished, they proceeded upon their journey. The man carrying the turtle, much to his amazement, noticed one of the legs slowly moving. He called his partner's attention to the matter, and insisted that the turtle was not dead. The other man ignored his remarks, and protested that the turtle was unable to live with its head severed from the body. They argued along these lines till the argument at length became fistic. Finally, they saw a man approaching in the distance, and they both agreed to leave the decision of the matter to this third party, who turned out to be a German. One of the men laid the case before him. He studied the animal's actions for some time, scratched his head thoughtfully, and finally handed his solution to them in this manner: "Gentlemen, I dink he is deadt, but he don'd know id."

Brother photographers, there are many members of our profession who are dead, but don't know it. The photographer whose display case has not been looked after for the last six months; the one whose operating room is a regular junk shop, with cobwebs and filth abounding in every corner and his old and worthless negatives placed in empty plate boxes and scattered about; the same background and posing furniture he has used for the last fifteen years, such a photographer is dead—so dead that if Gabriel should sound his trumpet right square in his ear it wouldn't even cause him to "get next to himself."

Honest now, boys, just try and regain your mental equilibrium and make an effort to recall some shabby place of business that came before your notice not too long ago. To all appearances it looked as though it had been closed by the sheriff. The windows were void of display except as a lot of old rubbish probably adorned them. The glass was thickly covered with dirt and there seemed no activity or life about the place. But you entered merely out of curiosity and found someone within was trying to conduct a business of a certain nature. You at once pronounced your verdict upon this man. You saw at a glance that his business was not as it should be. You noticed that he was not alert, not equal to the occasion, that he neglected valuable opportunities. You predicted that he would be forced to go out of business within a short time unless he changed his methods. Another dead man who doesn't know it! So here we have the conclusive agreement. You're both dead; and, unless you can realize and see in just what state your studio really is, you will soon be numbered among those who want to sell their studios in order to "go South," if they live in Michigan, and "go East," if they live in California. The rule applies in all cases. You can see why other businesses fail, but you cannot, for the life of you, see what is wrong with your own. Perhaps your place of business has been handed down to you by ancestors. You are probably using the same backgrounds and posing furniture that your grandfather used in making some of the daguerreotypes that grace the family album. Of course, you can make pictures with these accessories, but how would you look wearing the same hat you did some twenty years ago? If you have some of these things in your studio you are probably regarding them as sacred and prize them as relics. Even though such be the case, get them out of your operating room. People do not come there to see relics of olden times.

Some photographers seem to think that their old negatives must be placed in plate boxes and stored conspicuously in the operating room. If the retouching desk is constructed out of a soap box it greatly helps to heighten the effect if it be brought well into view. If, during the winter season, a stove is to be found, it generally shows signs of a very damp summer. The old iron head rest is still prominent, but for what reason no one knows; possibly for inquisitive youngsters to ask questions about. Even the framed pictures on the wall look as though they might have served a term in some house where an angry mother-in-law mistook them for the portrait of her son-in-law addicted to the 2 A. M. habit. It is useless to devote further space to the enumeration of articles that depreciate the value of, and are out of place in, the operating room. The photographer with the junk-room operating room must think that there is nothing therein that does not belong there or he would have changed its appearance long ago. But if business is dull and the future looks foreboding, he is no doubt looking for a remedy if not for the cause. Through fear of

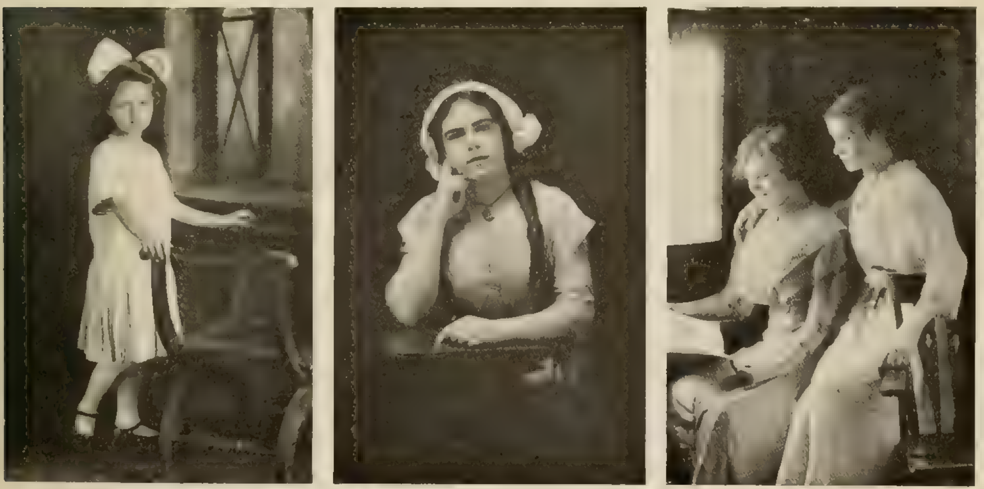


THE HANDS SHOULD ALWAYS APPEAR NATURAL

offending some of the profession I will not give my opinion point blank, but I have hinted at some of the vital errors leading to non-success that I have noticed in my experience with various studios. To those who may think I am right in my assertions, I have endeavored to furnish some food for thought, leaving them to pursue this matter as far as they deem consistent with good business management.

"You will find the dressing room to the right," remarked the courteous receptionist to the customer in the well-appointed studio. Two such rooms are advisable, one for the ladies and one for the men. A small stand or table, a mirror and one or two chairs are about all the furniture required. In the ladies' dressing room a box of powder, a comb and brush, a curling iron and a supply of pins should not be overlooked. Several miniature pictures on the walls would not be out of place.

No doubt you have often wondered, if you noticed it yourself, why your



SIMPLE, UNAFFECTED POSES ARE ALWAYS PLEASING operating room presented such a wierd and cheerless appearance. Try screening the skylight, when not in use, with some dark colored curtains, and arrange a number of potted plants about the room. Working out this scheme means a much more cheerful appearance that costs but little to secure. A very serviceable group background can be made out of any dark colored cloth, and this can be fastened, by means of rings, to an improvised pole extending the breadth of the room. This material can be draped to suit the occasion, and it adds materially to the appearance of the room. No definite rule can be laid down as to the number of backgrounds or the choice of posing furniture. The up-to-the-minute photographer tries to bring the home atmosphere into his studio. The window accessory is a priceless addition to many studios, and if the side light is low enough one can construct a seat on the lower portion. The window frame should be covered with tracing cloth to avoid halation, and it can be made still more effective by placing a portiere to one side. If several toys are placed on the shelf within reach of the child sitters, they will soon feel at home and little or no posing will be necessary.

When you are called into the operating room do not enter it coatless, dragging one foot after the other. Give your customers the impression that you are a busy man, even though your work is not pressing at the moment. Step lively; even though things have not gone your way in the dark room you should not look the fact. Try and show your customers that you appreciate their presence. Show them that you are interested and taking pains with their order. A manner that implies your anxiety to have the matter through with in the shortest possible time must be carefully avoided. Refrain from making matters unpleasant by informing your sitter that you only make two negatives for a four-dollar sitting. The stereotyped "Look pleasant, please" seldom fails to produce the desired results, but you can create a much more pleasing expression by keeping your sitter in good humor with a little pleasant conversation. However, you must carefully avoid making a display of superior intelligence when dealing with plain people; and, on the other hand, when you come in contact with intelligent people you should make your best effort to appear endowed with some intellect of your own. If the customer in your studio is the only one you have had all day, give him the same attention and arrange for the sitting in the same manner as you would had you been busy every moment. Some photographers when photographing children are content to stand behind the camera and make a noise like a duck, or ring a bell, expecting the frightened child to laugh at their queer antics; but in most cases they only cause the child to let loose its noise works. There are much better plans, varying with the photographer, that a little thought will suggest.

Some sitters wear glasses that show reflections and this can be overcome by making a three-quarter view of the face and bringing a black ground up close. White drapery is often troublesome, but this can be avoided by screening the lower part of the lens hood with black veiling and making the exposure in the regular manner. After the negative is fixed it can be reduced with a weak solution of red prussiate.

The exposure is a matter of no small importance. In a great many studios

SOME PLEASING LIGHT BACKGROUND EFFECTS

the same exposure is given during the bright days of June, when the sun shines from 5 A. M. until far into the dewy eve, as is given during the short days of December, when the bright effulgent orb of day just crawls over the southern horizon a little while at midday. The matter of exposure becomes a habit with many operators. In the spring and fall they estimate the exposure quite correctly, but in the dead of winter and the height of summer they are generally somewhat off. During the bright summer season the tendency is to overtime, while in the dead of winter it requires good judgment and skill to avoid undertiming. It is rather unfortunate that the photographers harvest comes with the holiday season, when the light is most difficult to handle. It is quite evident that the date for Christmas was arranged at a time when there was no photographer on the committee, as, had there been one, he would certainly have insisted upon having it come on one of the bright days of June.

During the dark day season, when daylight operating is impossible after 4 P. M., the flashlight and the Cooper-Hewitt light plays a very prominent part. With the aid of either of these, one need not refuse a sitting when a fond mother

DARK BACKGROUNDS ARE NEARLY ALWAYS EFFECTIVE comes in at five o'clock on a rainy afternoon to have one photograph the three children and the dog. One's sitter frequently dallies in the dressing room, regardless of failing light, and the condition must be met. Some operators have a strong prejudice against some particular form of artificial lighting on account of the ghastly or deathlike look imparted to the sitter, but the manufacturers have overcome this objectionable feature in their recent models. For the information of those who have one of the former models, I would advise them to place about three sixty-candle-power globes on the support of the light and see how easily the difficulty is overcome.

I was reading in a trade journal recently about a demonstrator who asked the privilege of inspecting the best piece of work of a very high class photographer. The answer came back like a flash, "My dear man, it has not yet been done." There is, in that answer, a text for you all. It is an inspiration that forms a fitting part of this article, particularly as it calls to mind most vividly those wonderful lines by Kipling:

"When earth's last picture is painted, and the tubes are twisted and dried,
When the oldest colors have faded, and the youngest critic has died,
We shall rest, and, faith, we shall need it—lie down for an æon or two—
Till the Master of All Good Workmen sets us to work anew!

"And those that were good shall be happy; they shall sit in a golden chair;
They shall splash at a ten-league canvas with brushes of comet's hair;
They shall find real saints to draw from—Magdalene, Peter and Paul;
They shall work for an age at a sitting and never be tired at all.

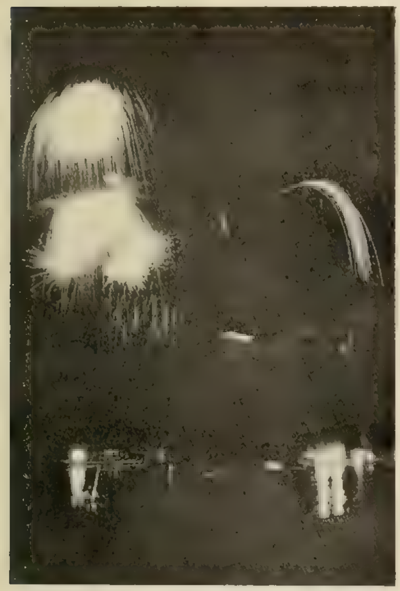
"And only the Master shall praise us, and only the Master shall blame;
And no one shall work for money, and no one shall work for fame;
But each for the joy of working, and each in his separate star,
Shall draw the Thing as he sees it for the God of Things as They Are!"

An Illuminated Aeroplane

By Helen L. Bushnell

Much pleasure can be gotten from taking night pictures, and it even pays to go against the sage advice of your photographer friends who say that it "cannot be done."

Daylight aeroplane flights have become no unusual occurrence, but it remained for Seattle, so far as is known to the writer, to send an illuminated aeroplane among the stars. The accompanying photograph was taken during our last annual celebration, known as the "Golden Potlatch." The bursting bombs and the searchlights from the warships in the harbor are easily distinguished. The tiny spot towards the right of the picture is the aeroplane, and its comet-like appendage is caused by the fireworks which the aviator dropped as he soared over the Sound.



AN ILLUMINATED AEROPLANE

This picture is not an exposure for a long consecutive time. It was exposed for about fifteen minutes before the fireworks started in order to get the lights on the boats in the bay to show. Then, as the larger bombs burst, the shutter was opened, and closed as the colored fire started on its downward journey. As will be noticed, the fireworks that burst near the same place were chosen for exposure, thus leaving the vacant spot for the appearance of the aeroplane, when the shutter was again opened for two seconds.

The data is as follows: Folding Brownie, 3A; Bausch & Lomb Rapid Rectilinear lens; stop f-8; focus one hundred feet; Eastman film.

From ten to fifteen different exposures were made in order to get this picture as it is. A vacant spot on the armory wall was found on which to set the camera, and the cynic who said the picture "wouldn't be any good, anyway," helped to keep away encroaching elbows of the jostling holiday crowd.

Courage is the basis of happiness; courage wins honor and respect; courage makes friends for us. Courage brings contentment, guarantees good judgment, meets and overcomes adversity. It gives life and implants a love for labor.—Herbert Edward Law.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—THE EDITOR.

FILM SPOOL TROUBLE: When a film spool fits very tightly and is hard to remove from the camera, use a picture-moulding hook of the thin, flat variety. It can be bent into just the right shape to lift out the film roll.—W. C. M., New Jersey.

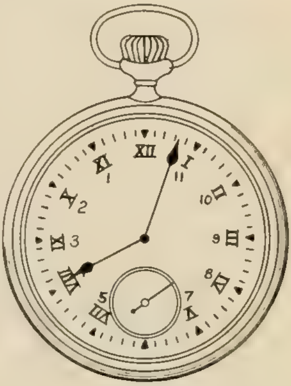
A BROKEN NEGATIVE: John had a plate, cracked across the glass, but not as yet through the film. He made a print on printing-out paper, in direct sunlight, taking care to keep the crack parallel with the shadow of an upright stick. Thus there was no side-printing of the crack and he secured a very fair print, from which he made a copy negative.—W. C. M., New Jersey.

PROFESSIONAL HINTS: A rolling pin such as mother used in making pies answers admirably as a print roller. A coarse sponge makes a fine paste brush, as it cannot shed hairs. Diamond dyes make a good substitute for water colors for tinting photographs. A fine opaque is made by mixing red ocher and gum arabic and boiling for fifteen minutes.—Ross B. Main, California.

PRINTS FOR REPRODUCTION: In making prints for reproduction, use printing-out paper, and print in direct sunlight. You can then bring up dense portions, such as clouds and halated skylines, by placing printing frame on floor under an open window, in the sun's rays, keeping the normal parts in the shadow of a pulled-down window shade, whose gentle movements in the draught will effectually vignette the light-edges.—W. C. M., New Jersey.

RETOUCHING DOPE FORMULA: Take an eight-ounce bottle and fill it about one-fourth full of lump rosin and then add one dram each of Venice turpentine, gum mastic and yellow beeswax, finally filling up the bottle with spirits of turpentine. To use, put a small amount of this in a small bottle and leave the bottle unstoppered so that evaporation may go on gradually. This will work best after standing a while in this way. A BB Hardtmuth pencil will be found best. I might add that it is almost impossible to obtain the necessary genuine Venice turpentine in an ordinary drug store, but a druggist may be found who will accommodate one by ordering a little from his wholesale house.—C. A. B., California.

THE RIGHT TIME OF DAY: To determine the proper hour of the day at which to photograph a view, particularly a building, in order to secure the most desirable lighting, proceed as follows: Hold your watch in such a position that the hour hand points toward the sun. Doing this may be facilitated by holding the watch level in one hand and with the other holding a match or toothpick in a vertical position over the hour hand, turning the watch about until the shadow of the match or toothpick falls across the center of the dial. Doing this, half way between the hour indicated by the hand and the figure 12 on the dial, is due south. Keeping this due south point in mind, point the figure 12 towards the object to be photographed; counting counter clockwise or backward from this number, the number counted when directly opposite the due south point will indicate the hour of the day in which that particular object should be photographed. Of course, the figures obtained on the left half of the dial will indicate afternoon hours, and those on the right-hand side will indicate those of the forenoon. In order to save confusion, remove the crystal from the watch and with a little waterproof India ink mark the counterwise figures, as shown in the sketch herewith, and replace. An experiment or two will prove the real merit of this method. A watch, used as first described above, provides one with an excellent compass should he become lost in the woods or mountains, as did the writer during one of his trips in Canada.—F. W. H., California.



A REALISTIC FIRE PICTURE By BRUGH WERNER
Made at Decatur, Illinois, 6:00 a. m., April 12th. Very dark and cloudy and raining hard. Polychrome plate, Ic Tessar lens, stop f-4.5, quick cap exposure, about one-fifth second. Pyrometol developer, print on F Hard Azo.

A Workman that Needeth Not to be Ashamed

"In the elder days of Art,
Builders wrought with greatest care,
Each minute and unseen part,
For the gods see everywhere."

The definitions of Art are numerous; its manifestations are endless, but one thing is certain, the work of art bears the indelible stamp of sincerity and truth. The true artist cannot do his work in any other way. His whole nature rebels against deception and falsehood, for in his finished work he faces his own soul.

Who, then, is the artist? Is he alone the painter who spreads paint upon canvas and the sculptor of ancient Greece? No, not these alone, but likewise the craftsman who made your old colonial chair with such loving care that it has come down through the years to give you joy and comfort, and the blacksmith who strikes his iron and shoes your horse with a loving touch, and the mother who selects colors and furnishings with painstaking regard and arranges them, not on a canvas, but in the composition of a home of refined taste and beauty, and the daughter who by careful selection of material and color makes her dress an expression of the refinement within and an influence for good without. And might we not find him in the structural iron worker who in the height above labored with such pride, regardless of whether the inspector cared or not, to the end that his rivets would hold fast and never be the cause of loosening beam and loss of life?

There was also an old soap maker who didn't live long after another bought his good name and cheapened it, and that old cobbler who made shoes by the grace of God.

"If I were a cobbler, I'd make it my pride
The best of all cobblers to be;
If I were a tinker, no tinker beside
Should mend an old kettle like me."

We acquaint children with the principles of Art and the history of their development, but have we grasped as we should our great opportunity, that of infusing them with that indescribable something that demands of ourselves at all times the best that we can do; that desire to meet and satisfy a demand from the watcher within rather than from the watcher without.

Might we not acquaint the young with this spiritual demand which is the motive in all true art; a demand which it is a joy to satisfy and a pain to withstand? This spirit as an underlying motive in all work would make every task a delight and every product an art achievement. The influence of such a spiritual demand is simply incalculable. Thus might we hope to emulate the great craftsmen of old, "in the work of whose hands was their prayers," and then might all say with Stevenson: "I know what pleasure is, for I have done good work."—VALENTINE KIRBY.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

Vol. XXI **San Francisco, California, June, 1914** **No. 6**

Intending Exhibitors Should Act

Those photographers who are desirous of exhibiting at the Panama-Pacific International Exposition should lose no time in filing their applications for space with Theodore Hardee, chief of the Department of Liberal Arts. An invitation was issued last April by this department of the 1915 Exposition calling attention to the special regulations adopted for the photography display and urging a prompt response.

While exhibit space is free, the rules of the Exposition require exhibitors to erect a suitable booth at their own expense and likewise defray the cost of transporting, installing and maintaining their exhibits. Instead, however, of requiring each exhibitor of photography to put up an individual booth, the plan proposed is for the department to erect one large and attractive two-story booth to house all of the photography exhibits. To cover the cost of constructing this booth the portrait, commercial and motion picture photographers and equipment manufacturers would be charged two dollars for each square foot of floor space occupied by them. There would be no charge to exhibitors of pictorial photography whose pictures would be hung in a gallery on the second floor of the booth.

If sufficient favorable responses are not received by the middle of July to guarantee construction of the proposed large booth by the Department of Liberal Arts at the expense of the exhibitors, that plan will be abandoned and the space will be divided among those applicants then on record, for the erection of individual booths to house their respective exhibits. In this event there would probably be no free Pictorial Photography Gallery, as the department has no fund for that purpose.

It is essential, therefore, for intending exhibitors in the photography group to apply for space without further delay, in order that the Chief of Liberal Arts may make suitable provision for their requirements. It is to be hoped that enough favorable responses will be promptly forthcoming to insure the erection of the large booth suggested for a dignified and interesting display of all branches of photography.

The Paget Color Plate

Dr. H. D'Arcy Power gave, at the California Camera Club, on the evening of Friday, May sixth, a well illustrated lecture on Screen-Plate Color Photography, pointing out the principles that underlie the production of this type of work and the differences marking the different plates used for the purpose. The lecturer said he was unable to believe that any of the existing attempts at color photography on opaque surfaces, such as paper and the like, promised a solution of that long unsolved problem. The major portion of the demonstration was devoted to the Paget color plate, which was explained, criticised and praised in turn, the following points being specially emphasized:

Screens: Both taking and viewing screens were shown to vary in color through various tints of blue, green and even brown. While good results were obtainable notwithstanding these variations, yet they did not, by any means, yield identical pictures. As only one could be really right, the fact remained that absolute truth in all tints was rarely attained. For that reason a closer approach to a standard seemed very desirable. The soft character of the gelatine used in the emulsion was unfavorably criticised. This was originally true of the Autochrome, but that plate had been greatly improved by the adoption of a tougher medium. It was strongly urged that the viewing screen be cut a trifle smaller than the plate to facilitate registration.

The Negative: The high price charged for the Paget negative plate had led the lecturer to experiment with other panchromatic plates and the results were thrown on the screen. Of these, a study of mixed flowers taken under like conditions on a Paget and on a Cramer spectrum plate were almost identical, no advantage resting with either. In the same way, slides were projected taken under like conditions except that a Lumiére Autochrome compensating screen was substituted for the Paget, no difference being apparent.

Snap Shots: Several slides, taken in one twenty-fifth of a second, were projected, showing full exposure. One, a view of the Truckee River with white-crested waves, distant snowclad mountains and good foreground detail, was a severe and satisfactory test.

Lamplight Studies: A very interesting slide was that of a bunch of brilliant red flowers under a green glass lamp (lighted by a 60-Watt Tungsten) and another, two ladies sitting at a table, had been given an exposure of two minutes, and the result was perfect. Other studies of lamp-lighted flowers were excellent in color rendering, those taken without screen being best.

The Paget and Autochrome Compared: Identical subjects taken on these plates, different in treatment only in that the Paget plate had one-fifth the exposure of the Autochrome, were projected. The brilliancy of the Paget plate as compared with the Autochrome was striking. The lecturer, however, was of opinion that while the advantage of the projected plate was all in favor of the newcomer, the opposite was the case when the plates were hand viewed.

Enlargements: A number of enlargements made from the negatives used in making the slides were exhibited. They were remarkable for showing no evidence of the screen dots and for the fulness of their gradation.

Throughout the lecture special emphasis was laid on the importance of care in small details. In particular it was shown that as the colored squares were only one four-hundredth of an inch in size, a false registration of a thousandth of an inch affected the result materially. Also that close contact of plate and screen were very necessary. Among the many advantages of the plate it was shown that personal control, by variation in registration and also by extra tinting, could be exercised to an unlimited extent.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Deterioration of Bromide Prints

A correspondent in a recent issue drew attention to what is sometimes called "oxidation" of the shadows of bromide prints, by which is meant the gradual appearance of a metallic sheen over the surface of the darker parts of the image. Strictly speaking, this is not due to oxidation, but most probably to a process of sulphurization, the deposit being a form of sulphide, so far as can be gathered by somewhat rough tests. The effect is not invariable; only a few prints out of a number exposed to the same conditions are likely to show it, and, therefore, it is evident that the appearance is not due to outside causes alone, but that there must be some favoring condition within the print itself. Uranium-toned bromides are especially liable to the defect, but they can be perfectly cured and restored, the method of restoration indicating pretty clearly the origin of the trouble. The sheen is quite easily removed by rubbing with indiarubber, and when removed any reappearance is effectually prevented by a coat of varnish, which may be celluloid varnish and quite invisible. If the deposit formed part of the image itself, or was formed of the material composing the image, this method of restoration would be impracticable, but the readiness with which it is effected shows that the defect is only superficial, the sheen being formed merely on the surface of the gelatine.

The sheen on a plain bromide print can also be removed by rubbing, and so it is evident that this also is a superficial effect. Metallis silver is, of course, sulphurized or tarnished when exposed to certain vapors, but lacquering or varnishing prevents any such effect. The silver image in a bromide print, being covered by gelatine, is already fairly well protected from atmospheric effects, and the efficacy of this protection is proved by the lasting qualities of the majority of such prints. When deterioration occurs we may then conclude that the deposit is formed not on the image, but in the gelatine over the image, which gelatine contains some silver compound sensitive to atmospheric influences. In a uranium-toned print we know that such a compound exists, and that if it is fixed out in a suitable solvent bath "oxidation" is obviated, though, as a fixer also materially alters the color of the image, it is very seldom used. In a plain bromide print there should be no such deposit, but all the same there often is one, owing to ineffective fixing, which is probably the most prevalent fault in photography and the cause of many other kinds of defects.

Curiously enough, very little attention has ever been given to the problem of fixing, while the operation is generally conducted in a most haphazard fashion. Baths are made up very carelessly, without any regard to quantities. Various additions are made in a quite speculative fashion, regardless of the actual effects of such additions, and often baths are kept employed until they are practically useless. So little is known at present with regard to fixing that all one can say with confidence is that no bath can be considered absolutely reliable if it contains anything other than pure hypo of a strength not under twenty per cent nor over forty per cent, or if it is not quite fresh, by which we mean not simply unused, but dissolved quite recently. These conditions can be departed from with safety, but as yet we do not know exactly what happens when variations are made, or which are the safe directions in which we may vary the bath. In the fixing of prints time is a most important factor, as we cannot see the effect and judge by inspection; hence it is important not to do anything that will prolong the time of fixation to an unknown extent. A plain, fresh hypo bath that is not too strong will do its work in much the same time in a variety of conditions, but if only a little too strong it becomes most erratic and unstable. If not used for three or four days after mixing it may lose half or more of its fixing power. The proper time of fixing may be doubled on this account, while if acid is added the time may be doubled again. A very little modification may convert, say, a proper fixing time of five minutes into one of twenty minutes or more, quite unknown to the user.

In avoiding the use of too much hypo we may go to the other extreme. We have seen ten per cent baths advocated for prints, but the time really required for a ten per cent bath is very much longer than that usually anticipated. Then, again, other additions are sometimes advocated besides acids, and some of these additions alter the bath so materially as to render it a very uncertain medium. It should be remembered that fixation is a chemical action, not a merely solvent one. Silver bromide is not soluble in hypo, but the hypo reacts with it to produce another silver compound, which is soluble. In the presence of certain substances this silver compound, which should be soluble, becomes either insoluble or else it decomposes, leaving a deposit on the film. Here, then, we have two methods of causing a deposit. Through using too slow a bath we may stop fixing too soon, or by using a wrongly compounded bath we may render perfect fixing impossible. Yet another and most infallable way is to fix in actinic light. This invariably leaves a deposit liable to give after-trouble. So far as present knowledge goes, the only way to ensure perfect fixing is to use perfectly fresh, plain hypo solution of a strength between the limits of twenty and forty per cent, and to prolong the time sufficiently to ensure complete action, the use of two baths in succession being very advisable.

The nature of the various deposits that may be left in the film as the result of ineffective fixing is very uncertain and, possibly, very variable. In the case of a uranium-toned print the material is, however, almost certainly a silver ferrocyanide. Only that lying quite upon the surface of the gelatine is affected by atmospheric impurities, and this superficial layer being removed by rubbing, a coat of varnish effectually protects what remains underneath. We restored a number of uranium-toned prints some ten years ago by the method described, and they are still quite perfect. The defect is much less common with plain bromides, and it is worth noting that these most often deteriorate when kept "protected" with tissue or other paper. Impure paper is, perhaps, a more effective cause of trouble than impure atmosphere, and our own experience is that the safest place for a print is in a frame if the framing is properly done.—*British Journal of Photography.*

Enlarging Through Ground Glass

Modifications can be introduced during the process of enlarging with a lantern by placing in front of the bromide paper on the easel a sheet of ground glass, as was demonstrated by John Martin at the Glasgow and West of Scotland Amateur Photographic Association recently. The glass itself required the exposure to be increased by about fifteen per cent. Working up can be done upon the glass with pencil and stump, and in this way a substitute for retouching in portrait work may be provided, while the method is also very useful for landscapes. Our readers will remember that T. H. Greenall published in our columns a year or two since a very similar method of enlarging, using plain glass in front of the bromide paper and working on it with moist colors. Mr. Martin used three varieties of ground glass, a rough one for broad effects, a finer, and a very fine. One advantage which this method possesses is that when once the work has been done upon the glass, it can be used for every enlargement of that size which is made, whereas when the picture is shaded in the usual manner during exposure, the shading has to be done afresh for each one, and it is difficult to secure uniformity. Those who use a lantern for enlarging should find the suggestion useful.—*Photography.*

A New Reducer

H. E. Smith, writing in *British Journal of Photography,* describes a reducer that he states has all the virtues of the persulphite formula without its uncertainty. It consists of an acid solution of Erdman's salt (an amido compound of cobalt) with trisodiocobaltic nitrate. Full details for making the salts and the reducer are given in the quite lengthy article.

Bromide Transfer Prints

The beautiful results that A. Demachy obtained by transferring oil prints to a new paper basis are now possible of attainment with bromoils. Dr. Emil Myer, using Rotary Bromide No. 3 (N. P. G.), has found it possible to obtain multiple impressions on various secondary supports.

A Safe Light

The red obtained by the following formula, according to the *Photo-Wochenblatt,* is sufficiently inactinic for dark-room purposes, and will give a safe illumination with the most sensitive emulsions.

A:	Gelatine	110 grammes
	Water	115 grammes
	Potassium bichromate	20 grammes
B:	Nitrate of silver	20 grammes
	Distilled water	28 grammes

The gelatine is inflated in the water, and then the bichromate dissolved and added. The solutions A and B are mixed, and the mixture spread on a suitable surface. It forms on the glass a ruby-red film.

Keeping Carbon Tissue

The storing of the sensitive carbon tissue has become a fairly simple matter since the introduction of the flat storage boxes with calcium-chloride chambers. But an investigation of some recent difficulties has shown us that many workers are probably taking insufficient care to keep the calcium chloride in a dry state, and that the tissue is not therefore desiccated. If the tissue is to remain in perfect condition for some considerable period it must be quite dry. But it must be borne in mind that when so desiccated it is not in printing condition, and that before being placed in the printing frame it should be left in a light-tight box or drawer for some little time to absorb a modicum of moisture from the atmosphere. After printing the well-known continuing action in the exposed tissue necessitates early development, and this is sometimes inconvenient. This continuing action can be stopped entirely, however, if the tissue is again desiccated in the calcium box. When the tissue is thoroughly dry it is very brittle, and for this reason a flat storage-box is much to be preferred to a tube, for if any attempt is made to flatten a piece of curved tissue before it has absorbed some moisture from the air the gelatine will be cracked. In general the point most needing attention by the worker is that when the storage-box is opened repeatedly for the removing or replacing of tissue damp air is admitted, and the absorbing power of the calcium salt is rapidly used up. Careful watch should therefore be kept and fresh supplies inserted as soon as any doubt arises.—*British Journal of Photography.*

Adjusting Arc-Lamp Carbons

Now that the afternoons are too dark for daylight sittings and arc lamps are being brought into use again, in many cases new installations in use for the first time, we have the usual crop of inquiries as to the cause of certain troubles. We are of opinion from the tenor of many of the letters that a great many troubles arise from neglect and from carelessness of adjustment. If an arc lamp, of no matter what type, is to do its work properly and to give the minimum of trouble, it must be put in proper adjustment before work is commenced. All the deposit from the consumed cored carbons should be removed and the lamp generally cleaned up, and if it is likely to be used more or less continuously throughout the day, care should be taken to see that the carbons are sufficiently long to allow of this, for nothing can well be more awkward than the replacement of carbons when the lamp is hot and a sitting is in progress. If enclosed lamps are used, then the glasses should be cleaned and thoroughly dried and again ample lengths of carbon inserted. Some of the later types of enclosed arc lamp which use a much thicker carbon for one pole are a great improvement, the lamp running much longer without attention. The shorter lengths of carbon may be utilized in the printing lamp, or possibly at other times of the year, when very likely the light is only required for perhaps the last hour of the afternoon.—*British Journal of Photography.*

A New Quick-Drying Sensitizer for Three-Color and Ordinary Carbon Tissues

I had recently occasion to do some three-color printing with carbon tissues upon paper and it was necessary for me to have bichromate baths of varying density to suit negatives of varying density. It was also necessary for me to have freshly sensitized tissue upon very short notice. As it was quite out of the question to sensitize overnight with the ordinary bichromate baths, as in all likelihood I should not be in a position to use the tissue the next day or for many days after, a quick-drying sensitizer of variable density was imperative. I was fortunate in being able to prepare a bichromate bath having all these requisites by using ammonium bichromate (pure) and ethyl alcohol, with minimum quantities of water to obtain the necessary solution of the bichromate in the alcohol. As I have found this sensitizer a great boon, I believe many carbon workers and three-color carbon workers especially will be interested in the preparation of this quick-drying sensitizing bath.

A stock twenty per cent solution of ammonium bichromate (pure) is prepared as follows:

Ammonium bichromate (pure)	20 grammes
Water to make up	100 c. c. s.

and we have that every ten cubic centimeters of this solution contain two grammes of bichromate, whilst five cubic centimeters contain one gramme.

To make up the sensitizing baths:

For a 2½ per cent bath take stock solution	5 c. c. s.
Ethyl alcohol	35 c. c. s.
For a 3 per cent bath take stock solution	5 c. c. s.
Ethyl alcohol	28 c. c. s.
For a 4 per cent bath take stock solution	5 c. c. s.
Ethyl alcohol	20 c. c. s.
For a 5 per cent bath take stock solution	5 c. c. s.
Ethyl alcohol	15 c. c. s.

To sensitize the tissue, pin the latter up in cut sizes to a piece of board in a vertical position by the four corners, placing a sheet of blotting paper between it and the board. A convenient method is to pin up two or three pieces of tissue side by side on the dark-room door. With a broad camel's-hair brush dipped in the solution, the surface of the first sheet of tissue is painted over with rapid strokes of the brush, first across, starting from the top, and then up and down, taking care not to have the brush too wet and not to wet the back of the tissue by letting solution get over the edges of the tissue.

Paint the solution on the three pieces of tissue rapidly in succession and then start over again, commencing from the first one. In this way the tissues should each receive three successive coats of solution and should then be hung up to dry. In fifteen to twenty minutes the tissue is ready for use. If an electric fan or a fire is in the dark-room, drying takes place even quicker.

This method enables one to have fresh tissue within twenty minutes and sensitized in a bath of the requisite strength to suit negatives of varying density. The made-up sensitizing bath after being used once should not be kept, as it becomes turbid within a few hours, hence the advantage of being able to make up small quantities as required and as shown in above formulæ.—Achille Carrara in *British Journal of Photography.*

Correct Polarity

In many cases it is most important that the positive wire should be connected to one of the carbons and not to the other if the best results are to be obtained, and in some instances the running of the lamp is distinctly bad if this correctness of polarity is not observed, a yellowish light being produced instead of a pure white one. With enclosed arc lamps the difference between connecting the positive wire to one carbon or to the other is not always so apparent. The small enclosed lamps with carbons placed at right angles to each other, however, give much better results when the positive carbon is the horizontal one, for its brilliantly incandescent end is burned towards the condenser and forms of itself almost that point of light which is optically so desirable. It is an easy matter to determine whether the connections are made correctly, for if the lamp is run for a few moments and then switched off, the positive carbon will be a brighter red than the negative. As these lamps are usually run off a wall plug, it is an easy matter to reverse the plug in the socket if it is found that the vertical carbon is the brighter of the two. Attention to an apparently small matter like this will enable better results to be obtained—or, at all events, will shorten the exposures when enlarging.—*British Journal of Photography.*

The "Wheeler" Diaphragm Hood

We have already expressed the opinion that all photographers interested in telephotography must be indebted to Captain Owen Wheeler for his work and research towards the perfection and simplification of this phase of photography, and all tele. workers will now welcome an additional improvement that he has just introduced. This is the Wheeler Diaphragm Hood. In form it is a small aluminum attachement for the front of the lens. It is similar in appearance to an iris diaphragm, and is marked with a pointer and figures denoting the diameter in millimetres of the opening when the pointer is opposite to any particular figure.

According to Captain Wheeler, the use of this hood is based on the fact that not only is a lens generally employed on a plate a good deal smaller than the one which it will cover, but also in telephotography the angle of view is greatly reduced, being that embraced by the positive lens divided by the magnifications. Accordingly, when a telephoto lens is used at fairly high magnifications, the actual image-forming rays are at their entrance into the lens system almost parallel. A hood can thus be employed to restrict the rays to an extent which, if the positive lens were used alone, would mean a serious loss of light.

In telephotography the extent to which the passage of the rays can be safely narrowed by the construction of a diaphragm placed in front of the positive lens—the system adopted in the Wheeler hood—depends upon the extent to which the positive is stopped. In practice it has been found that, with a 6-inch positive stopped to f-16, the diaphragm of the hood may be constricted to openings of twenty-four, eighteen, twelve, and eight millimetres, for magnifications of four, six, eight, and twelve respectively, without any appreciable loss of light. This may be taken as a guide for constructing a table which anyone can prepare for himself, the hood being already marked with figures denoting the width in millimetres of the opening when, on rotating the collar of the iris, the pointer comes opposite to any particular figure.

With a "Dodo" such a table can be constructed in a quarter of an hour by focussing a well-lit subject at progressive magnifications, stopping the positive to the aperture commonly used, constricting the hood until "cutting off" becomes apparent, and then slightly widening the opening. Eventually, it is hoped to establish a complete set of data in this connection, and Capt. Wheeler will be personally much obliged if users of the hood will very kindly let him have their results for comparison with his own tests.

The hood, which in use projects but half an inch, and weighs only one ounce, is a beautifully made little piece of apparatus, and is manufactured by Messrs. Ross, Limited. All telephotographers should obtain one from Captain Owen Wheeler, "Strathmore," Prince's Road, Weybridge, and write to this address for particulars.—*Amateur Photography.*

A New Autochrome Intensifier

A. E. Bawbee, writing in the *Amateur Photography,* advocates the use of the lead intensifier for very weak negatives and in particular for color plates. He says:

The main precautions to be taken are to thoroughly fix and well wash the negative. Any silver left in the film, either in the form of undissolved sensitive salt or of silver salt dissolved in hypo, will darken up when the intensifier is applied. The negative is bleached in:

Lead nitrate	⅓ ounce
Potassium ferricyanide	⅓ ounce
Water	10 ounces
When dissolved add glacial acetic acid	⅓ ounce

Next it is washed for a couple of minutes and rinsed in a couple of changes of a two and a half per cent solution of hydrochloric acid for say fifteen seconds each, and again well washed until the yellow coloration has quite disappeared.

The plate is blackened in:

Pure sodium sulphide......	½ ounce
Water	10 ounces

And the rinsing, acid treatment, and final washing carried out exactly as after bleaching.

Both solutions can be used repeatedly, and will last for many months. It is more conducive to clean negatives if the solutions are filtered occasionally.

Perhaps the most striking application of this intensifier is to under-exposed autochromes. These are always of too cold a tone, and the lead treatment, being of a brown shade, counteracts this coldness, yielding natural colors and of a gorgeous richness, hardly obtainable even by correct exposure and normal after-treatment. The plate, after the second development, is fixed in hypo, and then reduced in very weak hypo and ferricyanide till the lightest tones have only a trace of deposit left upon them. After a couple of minutes' wash the bleaching is performed. A rinse is given under the tap, the acid solution flowed rapidly over the plate twice, and followed by a couple of minutes' wash. After blackening, the same course is observed as with the dry plate, namely, to give the same amount of washing, acid treatment, and washing as was given after bleaching, say thirty seconds, two flows over and two minutes.

Should a negative show a brown stain, this can be removed either by immersion in, or local application, as the case may demand, of a solution of one part of chlorinated soda, as supplied by the ordinary druggist, in ten parts of water, following this by an application of the weak hydrochloric acid solution without washing the plate in between the two operations.

Lenses for Screen-Plate Photography

It is a mistake to suppose that any particular type of lens is a necessity for screen-plate color photography; any lens which can be used in ordinary photography is quite capable of good color work.

It is usual for makers to claim that their lenses are specially suitable for color photography on the ground of their perfect color correction. These claims are no doubt well founded; but the color correction is not of such great importance in screen plate work as in ordinary black and white, owing to the fact that the ground-glass image and the finished result correspond so closely. In ordinary work the negative is formed mainly by light of short wave length—the "actinic" rays—while the picture is focussed with the light most visible to the eye, that is, light of longer wave length. Thus incorrect focussing may result. In the case of a screen-plate, however, the same light by which the picture is focussed, produces the image on the plate, so that no inaccuracy can be caused by any slight central chromatic aberration.

Marginal or oblique chromatic aberration, which shows itself as color fringes on white objects, is of course more important. But as it shows itself to a slightly less extent on the finished plate than on the focussing screen, it may be ignored if it is not obtrusive in the focussed image, and if it is obtrusive the lens can be of little use for any serious photographic purpose.

A much more important matter is the presence or absence of haze or flare caused by imperfect polish, insufficient shading, too many open glass surfaces, and so on. This haze may generally be ignored in negative work so long as it is evenly distributed over the plate. The only effect seems to be to make the negative evenly denser, thus prolonging the printing. With screen-plates, however, it shows to exactly the same extent as on the ground-glass; the colors are degraded, the shadows without detail and transparent, and the whole aspect foggy and unnatural. It is probable that some of the cases of blue "cast" or bias are due to flare from blue sky.

The best lens for such work is, therefore, one with as perfect a polish and as few air-separated glasses as possible. A large and efficient lens-hood should also be used.

Another very important point is that the illumination of the plate should be as even as possible at full aperture. This is because the falling off in illumination towards the margin of the plate shows much more on a screen plate than on a print from a negative, or even on the ground glass. Of course, stopping down removes this defect, but the full aperture is more often wanted in this work than in any other.

In general, the illumination is more even the greater the diameter of the total field of the lens in relation to the focal length. Lenses which are long from front to back as compared with the diameter of the glasses should be avoided. This does not always apply, particularly with such lenses as the Telecentric, and a better and surer way to test for this quality is to focus on infinity, remove the focusing screen and look at the lens from one of the corners of the camera back —inside, of course. If only a small part of the front surface of the lens can be seen, the illumination in the corners of the plate will be deficient; and the greater the proportion of the front surface which can be seen, the more even will the illumination be.

Finally, no one should be deterred by the above remarks from taking up screen plate work (the simplest, most interesting, and least tedious branch of photography) because his lens does not possess all the qualities detailed herein. It is merely desired to indicate what qualities the lens should have in order to ensure ease of working and freedom from annoying restrictions.—J. E. Hargreaves, in *Photography and Focus.*

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

About Sepia Prints

A few years ago when sepia prints had become quite popular there were a few wise people who were quite sure that they were only a passing fad, and that some new color would soon take their place; either that or a return to black-and-white. But the sepia print has evidently come to stay. And if one will make a print, preferably a portrait, on both sepia and black-and-white, and then compare the two, paying particular attention to the quality of roundness, and lack thereof, they will be able to understand why the sepia print has the advantage. Possibly it is the warmer tone being more in keeping with those of flesh tints, perhaps it is because the shadows in the face are always of a warm tone and not the black of the regular print, but for some reason the sepia print will appear to have much the advantage over the other in the matter of roundness and modeling. The one fault of the sepia print is that it rarely has the rich sepia color it should have. Just as the old-time photographer gradually acquired a tolerance and even satisfaction in the wrong rendition of the colors that came before his lens, too many photographers of today are entirely too tolerant of a sickly, yellowish brand of so-called sepia that has little resemblance to real sepia, the sepia of the colorist, the sepia that originates with and is named after the sepia or cuttlefish that secretes the dye or color.

Polishing the Lens Barrel

A friend who has recently bought a second-hand portrait lens gave way to his natural inclination to have everything bright and clean and polished up the old barrel until it shone most pleasingly. But the trouble was that it would retain its bright appearance but a short time, rapidly becoming dark and tarnished despite the best care. Telling me of his troubles, I suggested that he give it a final polishing and then apply a coat of celluloid varnish, usually sold as cold lacquer. It is easily made by cleaning a few strips of celluloid film of the emulsion and then dissolving them in a little amyl acetate and acetone mixed half and half. It must be applied with a soft brush, working quickly with care not to overlap the strokes of the brush. Being colorless it is not apparent and is a protection that will stand considerable wear.

The Treatment of Corks

The average amateur who is fussy about such things is inclined to go to some expense and trouble to equip his darkroom with a lot of glass stoppered bottles, all of uniform size and shape, having the idea that they will look so nice and symmetrical, not to say superior. His pride lies mainly in the glass stoppers, but later he finds that many of his chemicals and solutions have a bad way of sealing these nice stoppers tight in the necks of the bottles. Then he may do as one friend did, invest in a lot of nice rubber stoppers that seemed so desirable from the descriptive matter that surrounded the cut in the catalogue. A little later these are discarded and the ordinary cork stopper adopted for the miscellaneous assortment of bottles that have taken the places of the nice symmetrical lot that were so confusing on account of their very uniformity. Corks, stoppers made from the bark of the cork oak, have a few drawbacks of their own. Sometimes they get hard. When this happens, place them in hot water and boil for a few minutes. Another plan is to place between two sheets of paper to avoid their picking up dirt, and roll under the foot. Some corks are too porous and admit air. This can be overcome by soaking them in melted paraffine wax for a few hours, seeing that they are tied down so as to be kept below the surface and that the wax is melted enough so that it can penetrate well. Tying them down suggests another good plan, that of making a loop of strong cord through any cork inclined to stick, leaving a good hold at the top by which the cork can be withdrawn in case of trouble. Still another good plan is to make this loop and then tie the cork, by means of another piece of string and this loop, to the neck of the bottle. This always assures the cork being findable as well as held away from a dirty shelf or bench.

The Way One Dealer Does

This particular dealer does a lot of developing and finishing each month, as practically all dealers do. His printer, his head printer, has orders to make an extra print from those negatives producing good pictures, selecting about twenty or thirty each month. At the end of each month the selected prints are turned over to a gentleman capable of such things and the best picture from the lot is awarded a prize. Not a large prize, but one large enough to make it worth while giving one's consent to the extra print being made, the consent of the owner of the negative being secured in each instance. Then the negative from which the prize-winning picture was made is used to furnish an enlargement, this last being placed in the dealer's window with a card explaining that it is the prize-winning picture of the month. Occasionally the selected pictures from which the prize winner was picked out are also shown, arranged in a row below or at the sides of the enlargement. The maker of the prize-winning picture invariably offers to purchase the enlargement, so that the dealer is practically only to the expense of the monthly prize.

Flashlight Work for Summer

I have often wondered why flashlight work, particularly portraiture, was always considered as being particularly suited to the winter months. The only reason I can assign is that the evenings are longer and other negative making is more restricted by the weather. But neither of these are good excuses. One does not need several hours in which to make a flashlight portrait, and because one has been making quite a few landscapes and the like within the week is no reason why he should not embrace the opportunity of making two or three portrait negatives by flashlight, particularly as they can be developed right along with the other negatives and still more particularly because it is less trouble to make them when the camera and accessories are in commission and the holders loaded. The truth of the matter is that the summer is really the only time for doing such work. One can use a room with all the windows open so that there is no trouble about smoke. In fact, the average porch or veranda, entirely out of the question in winter, is the ideal place for flashlight pictures. Furthermore, working on summer evenings one can often make most of the preparations, and they are but few, during the lessened light of the early evening or twilight; flashlight exposures being made without much fear of the daylight causing trouble even when there is still light enough to see just how one is working with perhaps the one exception of the actual focusing. But the real reason why flashlight portraiture seems more suited to the summer months is that the ladies and children are garbed in more pleasing style or one more befitting them than the average house dress of the colder months. Children are certainly more pleasingly and more consistently attired in straw hats and rompers, while the ladies, and particularly the younger ones, certainly are more attractive in the lighter and less burdensome clothing of the summer season.

Using An Actinometer

Just about so often a correspondent or a visitor complains of his inability to judge just when the tint of the sensitive paper in his exposure meter matches the painted tint that is placed alongside. He has difficulty in "matching the tint," as the instructions so glibly tell him is about all that is left for him to do. Not a few of these complainants go still further and condemn the makers of the meters for not giving them a tint that is exactly matched by an obtainable tint on the paper. And it is here that the whole trouble lies, although we must not allow the blame to rest on the shoulders of the manufacturers of the many excellent exposure meters on the market. The facts of the case are, the tint or color of the exposed paper is not uniform but varies with different batches of the paper and more still with the condition of the atmosphere as to humidity, not to mention that the paper is more or less sensitive to this last influence as it is fresh or otherwise. If the manufacturer could paint his standard tint with some color that would behave in the same manner, then the "tint" as well as the tone might be matched. What the novice, and it is always the beginner with the meter that finds the difficulty or regards it as important, what the novice should do is to bear in mind that it is not exactly the tint that he is to match, but rather the depth of tone. This understood, the matter becomes much more simple. One of the manufacturers has appreciated this difficulty and, in his book of instructions, advises the user to examine the tinted paper in comparison with the tint being matched through half closed eyes or, rather, through the eyelashes when the lids of the eyes are closed enough so that the sense of color is lost and only that of one is retained. An experiment or two will show that this plan is quite feasible.

Using Old Negative Glass

I was out to a friend's house one day last week, Sunday afternoon, to be exact, going out in the machine of a mutual acquaintance. This chap we were visiting had just built a new house and he was particularly proud of the windows for the reason that, as he explained, the upper sashes of all of them were made up of small panes of glass that were originally 5x7 negatives with the emulsion cleaned off. The appearance was pleasing, the sashes cost but little more with the extra bars, and several of his friends who are building in the same suburb will give their own windows the same treatment, using up more of his accumulation of spoiled negatives in doing so, in fact, I do not see why a lot of camera users might not create a demand for these otherwise useless reminders of their lack of photographic skill by cooperating with some builder or the like in their immediate neighborhood to the extent of suggesting such glazing of all upper sashes in the dwellings being built.

About Asking Questions

Readers of this magazine should not feel that the editor has any lack of sympathy for the beginner or any disinclination to answer the most simple questions that will, when answered, help the veriest beginner over a trouble or a perplexity. He, your editor, answers hundreds of such questions each week, doing so by letter rather than await the publication of the next following issue. Frequently a question is asked the answer to which would appear to be of general interest, and then, while the reply goes forward by mail, the carbon copy of the letter is given a heading, the form slightly changed, and the readers given the benefit of the advice through these columns. Many readers, particularly the new ones, see only the more unusual questions answered in this department and make the mistake of supposing that only such questions are answered and answered only through these pages.

'TWAS ONLY YESTERDAY

A Photographic Item of 1886

In the early part of June of the current year (1886) the news was wired from Boston to all parts of the country that a local photographer, Mr. T. R. Burnham, had produced the largest dry plate negative ever attempted, the success being in every respect complete. As a natural consequence, the author of the big picture was quickly sought out, interviewed and questioned, and experts very soon discovered that it was not a mere sensational report, but an accomplished fact. There was the huge negative, representing a life-size three-quarter length portrait of a young lady, and measuring 3x5 feet—36x60 inches. The weight was over eighty pounds, the thickness of the glass about half an inch. The plate was coated expressly for the occasion by Messrs. Allen & Rowell, of Boston, professional photographers of high standing, and manufacturers of an excellent brand of dry plates, who declare that the task imposed on them was a most difficult one, as can be imagined. And the amount of labor required in developing the huge plate was something they had not anticipated, and are not anxious to experience again. The trays had to be specially made, and the quantity of developing solution is said to have been over three pailfuls. Everything connected with the undertaking had to be done on a large scale. The camera, though not a model of compactness such as a fastidious amateur dreams about, was home-made, and constructed by Mr. Burnham himself, the lens used on it being a No. 8 Euryscope, the largest of that class made.

The upright focusing screen consists of two lights of ground glass divided by a bar running across, similar to a window, the height being such as to necessitate the use of a pair of steps in focusing the image. Thus the "largest camera in America," furnished by a well-known manufacturer to a Boston amateur, and which accommodates a 24x30 plate, is effectually eclipsed. As to the picture itself, which was exhibited at the St. Louis Convention and seen to advantage by admiring groups of photographers, nothing short of sincere praise can be bestowed upon it. Made with Voigtlander's Euryscope No. 8, in twenty seconds, and fully timed, it possesses all the merits of a first-rate photograph, notwithstanding its huge proportions, the definition is adequately clear and surprisingly even all over, showing how skillfully the focus was divided—the most important factor in the production of large pictures, whether heads, figures or groups, and in which particular many photographers fail, in spite of the excellence of the instrument employed. The most gratifying feature of the print, however, is the illumination, which is brilliant, searching, and almost phenomenally uniform, extending as it does to the very edges—showing, too, that the covering capacity of the lens was not taxed in the least, and that even a larger picture could be produced under similar conditions. Then, too, the lens in its original form was used, and not one of the combinations, as has been intimated by some biased or inexperienced critic. Had this been the case, it is very doubtful if the feat could have been accomplished, as two very serious obstacles would have presented themselves—namely, the doubling of the focus and the doubling of the time of exposure. The negative was printed in the usual way, on a single sheet of Morgan's albumen paper, 36x60.—*Scientific American.*

Photographic Art Society of the Pacific

This was the name of the society that flourished in San Francisco during the latter seventies. It was organized March fifth, 1875. Quoting from a copy of the Constitution and By-Laws kindly loaned us by Thomas Houseworth, the following list of members will no doubt be interesting as practically a roster of the professional photographers here at that time:

Thomas Houseworth ....12 Montgomery St., S. F.
John D. Godeus......34 Third St., S. F.
Silas Selleck..415 Montgomery St., S. F.
Elliott Houseworth ....12 Montgomery St., S. F.
Wm. Houseworth ....12 Montgomery St., S. F.
Joseph W. King....638 Market St., S. F.
J. T. Silva...........64 Third St., S. F.
Jacob Shew...513 Montgomery St., S. F.
S. S. Noble...................Petaluma
Robert A. Marden....28 Third St., S. F.
Robert Winter ....513 Montgomery St., S. F.
W. E. Lovejoy.....128 Kearny St., S. F.
W. E. James...12 Montgomery St., S. F.
Wm. H. Rulofson...............................429 Montgomery St., S. F.
George B. Rieman..............................429 Montgomery St., S. F.
John P. Spooner...............Stockton
D. B. Taylor..429 Montgomery St., S. F.
J. G. Smith....................Vallejo
C. Southerly ....Oakland
S. C. Walker......413 Fourth St., S. F.
R. J. Leavenworth.................................1004 Powell St., S. F.
A. G. Williams.......42 Mary St., S. F.
A. K. Kipps....100 McAllister St., S. F.
J. M. Pickett....1102 Stockton St., S. F.
T. H. Jones..429 Montgomery St., S. F.
A. J. Perkins........33 Third St., S. F.
J. H. Hogan..........33 Third St., S. F.
William Shew......115 Kearny St., S. F.
T. A. Brown......606 Kearny St., S. F.

Officers for 1875 were: Thomas Houseworth, President; Jacob Shew, Vice-President; George B. Rieman, Recording Secretary; Robert A. Marden, Corresponding Secretary, and William Shew, Treasurer. The Executive Committee was composed of Messrs. Rulofson, Silva, Winters, Godeus and Kipps.

OUR BOOK SHELVES

"Moving Pictures: How They Are Made and Worked"

Frederick A. Talbot, an authority on all that pertains to cinematography or moving picture work, has, in this handsome book, given us the first one of the kind suitable to the needs of the layman. He tells, in simple language and with an abundance of illustrations, just how the many forms of trick pictures are made in the largest and best of the foreign studios, and how, for example, the production of the Selig Jungle pictures, such costly and elaborate ones as "The Fall of Troy," and many others, come in for much that is interesting; in fact, the author succeeds in making the "behind the scenes" part of the work as interesting and thrilling as any of the actual pictures as we see them upon the curtain. Not only this, but the work becomes a text book that does not neglect the history and mechanics of the work, and the expert moving picture man will find in its pages much that is new and informative, despite the fact that the novice is considered most carefully throughout. The book is handsomely bound, has three hundred and forty pages, and is profusely illustrated. Price one dollar and fifty cents net. Published by J. B. Lippincott Company, East Washington Square, Philadelphia.

"On Old World Highways"

Thomas D. Murphy, well known by his former successes in "British Highways and Byways" and "In Unfamiliar England," has given us, in this later volume, a most charming and instructive account of the scenes presented and the country traveled on a motor ramble through France and Germany and from Land's End to John O'Groats in Great Britain. Mr. Murphy combines a keen observation with a charming style of describing his impressions, and the reader can only find delight in his vivid account of a most interesting motor pilgrimage. The text is assisted by sixteen color plates and forty duogravures, the volume is a handsome example of the printer's skill and the binder's art. Price three dollars, postage twenty cents. Published by the Page Company, 53 Beacon Street, Boston, Mass.

"Garden Book of California"

The amateur gardener on the Pacific Coast, and particularly here in California, has long been denied an informative book on the subject that is so certain to interest the resident of this favored section where conditions and even the flora itself are so different as to render standard works of little or no value. To supply this need, Belle Sumner Angier has given us a volume with the above title, a volume that is a veritable treasure house of information concerning plants, their cultivation, as well as their application—their right application—to the adornment of the home and the home grounds. The book is handsomely printed, illustrated and bound, as are all those originating with the publishers thereof. The illustrations, some twenty in number, are all reproductions from photographs, printed in duotone. and show scenes that illustrates most effectively the application of the advice and suggestions given in the text, doing it in a more convincing manner than could be done in any other way. The price is two dollars, postpaid by the publishers, Paul Elder Company, 239 Grand Avenue, San Francisco.

"Leitfaden Der Filmphotographie"

This, the seventeenth of the series "Photographischer Bucherschatz," is informative and instructive in its completeness. It is made up of over one hundred pages, illustrated with cuts and halftones, and covers roll film, flat film and film-pack photography in the most detailed manner. The author, Von Friedrich Hahne, is a writer who is both clear and thorough, and, while the book deals mainly with goods of German manufacture, practically all of the matter is applicable to the same class of cameras and material obtainable generally throughout the world, and the book is, therefore, one that we can recommend to those interested in film photography and who read German. The price is Marks 2.00, postage 50 pfennigs. Published by Ed. Liesegang's Verlag, M. Eger, Leipzig 20, Germany.

"Herstellung Photographischer Vergrosserungen"

This, the latest edition of this standard handbook on enlarging, is the seventh of the "Photographischer Bucherschatz" series, so well known in Germany as authoritative and complete in its treatment of the various subjects covered. This particular volume is by Doctor George Hauberriber, an instructor as well as a writer of note on photographic subjects. The book contains, in addition to two reproductions of negatives in the form of plates, some fifty illustrations that amplify and make more instructive the well handled text. Every detail of the subject is covered in a way that is informative and practical to a marked degree. The price is Marks 2.50, postage pfennigs. Published by Ed. Liesegang's Verlag, Leipzig 20, Germany.

CLUB NEWS AND NOTES

Toronto Camera Club

The Toronto Camera Club appreciates the interest taken by so many new exhibitors, in addition to those who have contributed in previous years, and hereby tenders its best thanks to all who have assisted in making this 1914 Salon the most successful of its Photographic Expositions.

The scope of this annual Exhibition is now quite international. An opportunity was afforded of viewing the pictorial efforts of foremost workers in no less than seven of the countries of Europe, as well as those of the Motherland and the United States. Canada was also well represented.

Of the seven hundred and sixty-four prints submitted to the Jury of Selection, four hundred and forty-two were chosen as having the requisite standard of artistic merit. No less than ninety-seven came from Europe, eighty-four from Great Britain, one hundred and twenty-one from the United States, and one hundred and forty-two from Canada, ninety-five of the latter being the work of the Toronto Camera Club's own members.

The Jury of Selection had no light task in assigning their awards of the gold, silver and bronze medals, and the general excellence of the exhibits is attested by the unusual number of honorable mentions. The award list is as follows:

A. S. Weinberg, Groningen, Holland, first prize, Gold Medal; Landscape Class—A. F. Snyder, Philadelphia, Pennsylvania, Silver Medal; G. Goatley, London, England, Bronze Medal; Portrait Class—A. D. Brittingham, Tuckahoe, New York, Silver Medal; Marcus Adams, Reading, England, Bronze Medal; Genre Class—Egon Ratibor, Winnipeg, Canada, Silver Medal; E. H. Weston, Tropico, California, Bronze Medal; Marine Class—W. G. Shields, New York, Silver Medal; T. Crabtree, Norden Rochdale, England, Bronze Medal. Exhibits for future Salons, of which due notice will be given, will be heartily welcomed by the Club.

Cleveland Photographic Society

On April eighth, at a regular business meeting of the Club, eight new members were admitted. On April twenty-second about seventy-five members and friends attended an illustrated talk on Mexico by the Secretary; about one hundred and fifty slides, all from negatives by G. M. Nisbett, being shown. On May sixth fifty-three members of the Club attended the Kodak Company's exhibit in the Central Armory, special provision being made for their entertainment through the courtesy of the Eastman officials. On May tenth the first outing of the year was held at Bedford Glens. Competitive views were taken, and these will be criticized by a committee that will award a prize of a pair of stereoscopic lenses, in shutter, to the member submitting the winning picture. The lenses are donated by Juan C. Abel. On May thirteenth, at a regular business meeting, twenty new applications were passed on favorably. After the regular routine business was over a very interesting talk on Portrait Photography was given by B. Frank Moore.

At the next meeting there will be a talk on Jamaica by John F. Lewis, illustrated by slides from his own negatives, while the Entertainment Committee announces a smoker at an early date, and outings will be made an important feature throughout the Summer. The Club is installed in its new quarters in the Cuyahoga Building; the dark room is in operation; an enlarging appartus will soon be installed, and lockers are ready for the use of the members. G. M. Nisbett, Secy.-Treas.

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Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

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Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

James B. Warner, Director Stereoscopic Division, 413-415 Call Building, San Francisco.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality a letter "X" will be placed after the member's number indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

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STATE SECRETARIES.

Answers to inquiries concerning membership and membership blanks will be supplied by the State secretaries. Album directors are at present acting as State secretaries in such of their respective States as have as yet no secretaries.

California—W. E. Thomson, 3211 School St., Fruitvale, Oakland.
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Kansas—H. H. Gill, Hays City.
Missouri—J. F. Peters, Room 210, Union Station, St. Louis.
New York—Louis R. Murray, Ogdensburg.
Oregon—F. L. Derby, La Fayette.
Texas—Emmett L. Lovett, Roby.
Wisconsin—F. W. Freitag, 500 Monument Square, Racine.
Mississippi—George W. Askew, Jr., 211 34th Ave., Meridian.

NEW MEMBERS

3878—E. Kornmann, Ocean Beach, Cal.
Class 3.

3879—W. H. Barker, R. F. D. No. 2, Stanley, N. C.
5x7, 4x5, 3¼x5½, developing paper, of views and comical pictures; for the same. Class 1.

3880—H. E. MacDougall, R. F. D. No. 2, Telluride, Colo.
Class 2.

3881—Albert C. Gocher, 184 Sherman St., Buffalo, N. Y.
4x5, various papers, of local views; for anything interesting. Class 1.

3882—Harry R. Knittle, Catawissa, Pa.
Class 3.

3883—Eugene D. Young, 1210 Patterson Ave., Winston-Salem, N. C.
2¼x4½ and enlargements, developing paper, of landscapes, street scenes, figure studies, and interiors; for mountains, river scenes, seaside, bathing scenes, and nudes. Class 1.

3884—Mrs. B. Spencer, Box 205, Paintsville, Ky.
Cabinet to 5x7, developing paper, of studio portraits; for the same. Class 1.

3885—W. H. Partin, Box 2, Taloga, Okla.
3¼x5½, post cards, and smaller, developing paper, of mountain scenery, prairie views, park scenes, landscapes, river scenes, and miscellaneous; for prints or post cards of good views of general interest, amateur subjects. Class 1.

3886—Leo J. Sechser, 635 No. Summit Ave., Sioux Falls, S. D.
Class 2.

3887—Paul Rottluff, 435 W. 11th St., Sioux Falls, S.D.
Class 2.

3888—Ross Sells, care Dempster Mill Mfg. Co., Sioux Falls, S. D.
Class 2.

3889—L. W. Bashaw, Benton City, Mo.
Class 3.

3890—Albert Furze, Wardner, Idaho.
Class 2.

3891—Clifford S. Bastla, 109-111 King St., London, Ont., Canada.
3¼x4¼, 4x5, various papers, of landscapes, marines, street scenes from the principal cities of the United States and Canada; for any good picture. Class 1.

3892—F. Pleasance, Water St., Shelbyville, Tenn.
5x7 and post cards, various papers, of general subjects; for child subjects and studies in nude. Class 1.

3893—Jos. C. Wayne, 167 Main St., Petaluma, Cal.
Mostly 5x7, developing paper, of drapery and busts; for general views. Class 1.

3894—John F. Carrigan, Box 554, Clifton, Ariz.
3¼x5½, various papers, of mountain scenery and general views; for anything of interest. Class 1.

3895—W. D. Stone, Box 180, Fayetteville, Ark.
4x5 and 5x7, various papers, of birds, birds and nests, landscapes, and river scenes; for birds, nests, and wild animals. Will consider exchange for others, if good. Class 1.

3896—Charles E. Luthman, Jr., 35 Sibley St., Hammond, Ind.
Class 2.

3897—L. L. Loftis, P. O. Box 304, Kenilworth, Utah.
Class 2.

3898—P. R. Hoover, 1828 West 45th St., Cleveland, Ohio.
5x7, developing paper, of Yellowstone Park, city and suburban; for photographs and lantern slides, foreign. Class 1.

3899—Francis Parrish, Athens, Ill.
Class 3.

3900—Paul Collins, R. F. D. No. 4, Box 29, Albany, Ore.
Post cards, 4x5 and 5x7, developing paper, of children, landscapes, and views and scenes of Albany; for children, landscapes, views and scenes of general interest. Class 1.

3901—Monte McFry, 534 E Avenue, Douglas, Ariz. Class 2.

RENEWALS

150—J. C. Shinkle, Woodland, Cal.
4x6, 5x7, various papers, of Yosemite views, also Mt. Shasta and scenery around; for scenery everywhere. Class 1.

504—William A. Bixler, 706 E. 3d St., Anderson, Ind.
Class 3.

1865X—Charles W. Davies, Box 528, Lake Charles, La.
Any size desired, developing papers, of scenery and pictorial; for post card size of pictorial landscape and genre, no architecture. I turn out permanent prints and expect the same. Class 1.

2229—Clare W. Faulkner, Box 647, Dawson, Yukon Ter., Canada.
Class 2.

3348—Ingenior C. J. Brodersen, Gl. Kongevej 121, Copenhagen, Denmark.
Class 2.

3372—George M. Nicholson, Zuni, Va.
3¼x5½ and enlargements up to 8x10, various papers, of landscapes and portraits treated in a pictorial manner; for landscapes and general views treated in a pictorial manner, also foreign scenes. Class 1.

3541—B. F. Smith, Tygh Valley, Ore.
Class 2.

3604—A. G. Raveling, Brentford, S. D.
5x7 and smaller, various papers, of mostly farm views; for anything of general interest. Post cards only. Class 1.

3666—Olson & Hafen, 77 N. Academy Ave., Provo, Utah.
Will exchange lantern slides of Utah and Western views for slides of general interest. Good work only. Class 1.

3677—E. H. Moffet, Tulare, Cal.
3¼x5½, developing paper, of any and all subjects; for the same. Post cards only. Class 1.

3808X—Elsie M. Ayres, Owensville, Ind.
Post cards, developing paper, of views of general interest; for the same. Class 1.

3845—E. C. Bower, 1851 E. Hazzard St., Philadelphia, Pa.
Class 3.

CHANGES OF ADDRESS

191—Miss Mary E. Tuttle, 1555 N. La Salle St., Chicago, Ill.
(Was Dover, N. H.)

1896—Robert Ritchie, 807 Rosser Ave., Ft. Rouge, Winnipeg, Canada.
(Was 762 Banning St., Winnipeg, Canada.)

1864—A. G. Lindgren, Hasty, Minn.
(Was Echo, Minn.)

2151—Pres Fidler, Camino, Cal.
(Was Weed, Cal.)

2350—J. W. Green, Sitka, Alaska.
(Was Paonia, Colo.)

2390—D. M. Wogaman, Lock Box 532, Glenwood Springs, Colo.
(Was South Canon, Colo.)

2519—Alex. F. Jilly, 1837 Belle Plaine Ave., Chicago, Ill.
(Was 3934 N. Marshfield Ave.)

2569—Henry Guyaz, Armstead, Mont.
(Was Medicine Lodge, Mont.)

3609—H. H. Stickney, Jr., Moody, N. Y.
(Was Lyons, N. Y.)

3744—Harry D. Hineline, care Y. M. C. A., Louisville, Ky.
(Was Beloit, Wis.)

3769—Charles H. Marshall, 503 Warren St., Newark, N. J.
(Was 502 Warren St.)

3833—M. Y. Shepard, Oakland, Iowa.
(Was Ames, Iowa.)

3853—J. R. Amelung, 3426 Virginia St., Kansas City, Mo.
(Was 3727 Highland St.)

WITHDRAWALS

3593—E. Wesley Lidaker, 1303 Armstrong Ave., St. Louis, Mo.

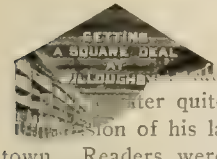
3866—C. D. Noble, Rongis, Wyo.
Has moved to South Pass City, Wyo., and lack of time will not permit of exchanging at present.

3819—I. H. Moyer, Skagway, Alaska.
On account of lack of time.

A. & H. Record Plate, was I ever able to make a picture which showed life, and yet, the beginning of the night at the same time." "Print this letter if you wish," he continues, "so that you can tell the photographers just what you have done in the way of eliminating the limitations of the photographer, and also tell them that your plate has everything that you claim for it—fineness of grain, absence of fog, and good keeping qualities."

Allison & Hadaway, of 235 Fifth Avenue, New York, will be glad to send Camera Craft readers a specimen package of any size of the plate, postage prepaid, upon receipt of the list price.

An Interesting List



Most of the enter- [illegible] of May twenty ninth [illegible]ter quite a nice little notice on [illegible]sion of his last visit to that thriving town. Readers were told that the writer's "geniality and perennial good nature makes him a welcome visitor," making him feel quite proud and important.

L. C. Buttrick, the good looking and genial new salesman for the Eastman Kodak Company, has made many friends since his appearance in this territory.

Carl LaMoine, of the Bowman Drug Company of Fresno, took unto himself a wife during the Easter time.

Guy Hess, of Eureka, recently installed a complete new studio outfit, together with new backgrounds and accessories. His studio now presents a very attractive appearance.

Joe Thompson, of Eureka, loaned a man twenty-five dollars some time ago and he is now trying to get ten dollars for the obligation and the chance of collecting the whole amount. He tried to interest the writer, but failed to make the proposition look attractive enough. It is a bargain for someone who is a better collector than Joe.

A New Rodenstock Lens

Series III, No. 3, Eurynar is a lens of seven inches focal length that meets most fully the demand for a strictly high-grade double anastigmat possessing speed, depth of focus and covering power, one for use on such cameras as the 3A Graflex, Speed Graphics and like forms of focal plane and other cameras intended for high speed photographic work the most conscientious salesmen on the road, and his knowledge of photography and the underlying principles of dry plate making was very extensive.

Polygon Camera Catalogue

A handsome fifty-eight page catalogue of the Polygon cameras and the Rietzschel lenses has just reached our desk. It shows some excellent examples of lens work, and is typically German in the thoroughness with which it plays its part in informing the reader as to the goods listed. There is much to interest any photographer, and as it is sent upon request to any of our readers, no time should be lost in asking for a copy. Address, Meyer Camera & Instrument Company, 18 West Twenty-seventh Street, New York.

[illegible] if desired. The other sizes of this popular f-4.5 lens can also be supplied in this new construction. Our readers interested in high grade lenses at a reasonable price should address the American agents, W. J. Lafbury Company, 305 North Fifth Avenue, Chicago, Illinois.

Motion Picture Films

We are advised that the Raw Film Supply Company of New York has been licensed and granted the right to import, use and sell to others, to be sold or used by them, during the life of the so-called Goodwin Patent, both Agfa and Gevaert films. This firm has asked that this announcement be made in order to relieve its customers of any concern in the matter of possible infringement, believing that the information is one of interest to the photographic industry, as they believe only one other firm has been so licensed by the owners of the Goodwin Patent.

That Famous Trial Offer

The news of the generous trial offer on Instanto, made by The Photo Products Company, Chicago, spreads very rapidly, and more and more amateurs are taking advantage of it. No doubt of the thousands of amateurs who have already accepted this offer, a majority have become Instanto boosters, otherwise the manufacturers would not continue what is apparently a losing proposition. Three dozen postals of 4x6 paper for twenty-five cents prepaid, is a proposition every live amateur photographer

NEW MEMBERS

3878 E. Kornmann, Ocean Beach, Cal.
Class 3.
3879 W. H. Barker, R. F. D. No. 2, Stanley, N. C.
5x7, 4x5, 3¼x5½, developing paper, of views and comical pictures, for the same. Class 1.
3880 H. E. MacDougall, R. F. D. No. 2, Telluride, Colo.
Class 2.
3881 Albert C. Gocher, 184 Sherman St., Buffalo, N. Y.
4x5, various papers, of local views; for anything interesting. Class 1.
3882 Harry R. Knittle, Catawissa, Pa.
Class 3.
3883 Eugene D. Young, 1210 Patterson Ave., Winston-Salem, N. C.
2½x4½ and enlargements, developing paper, of landscapes, street scenes, figure studies, and interiors; for mountains, river scenes, seaside, bathing scenes, and nudes. Class 1.
3884 Mrs. B. Spencer, Box 205, Paintsville, Ky.
Cabinet to 5x7, developing paper, of studio portraits; for the same. Class 1.
3885 W. H. Partin, Box 2, Taloga, Okla.
3¼x5½, post cards, and smaller, developing paper, of mountain scenery, prairie views, landscapes, river scenes, and

prospective entrants, it has been most enthusiastically received in all parts of the United States and Canada. That this contest is one of the greatest competitions in photography is the general opinion of camera users and devotees of photographic art, not only here in America, but abroad as well; and it is with regret that Ansco Company has been compelled to decline entries from these last. There are several reasons why the success of the Loveliest Women Contest is assured. First, the idea of the contest makes a universal appeal — every one knows a lovely woman is anxious to have her beauty perpetuated, and here is the opportunity.

The cash prizes, ranging from fifty dollars to five hundred dollars for a single photograph, five thousand dollars in all, are an attraction which, combined with the honor and glory of having one's work displayed before the world at one of the greatest expositions of history, is a goad to ambition and achievement. Then, too, an exceptional opportunity is given to all professional photographers who desire to make the contest count in their business, through the electrotype service offered by Ansco Company. Three artistic, appealing, business-bringing advertisements have been prepared for this month, and electrotypes will be sent free—one to the first three photographers in each city who will write for them and promise to use them in local newspaper advertising. Other series will follow, so that each photographer will have an opportunity to run the cuts some time during the period of the contest, if he

RENEWALS

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4x6, 5x7, various papers, of Yosemite views, also Mt. Shasta and scenery around; for scenery everywhere. Class 1.
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Class 3.
1865X—Charles W. Davies, Box 528, Lake Charles, La.
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Class 2.
3372—George M. Nicholson, Zuni, Va.
3¼x5½ and enlargements up to 8x10, various papers, of landscapes and portraits treated in a pictorial manner; for landscapes and general views treated in a pictorial manner, also foreign scenes. Class 1.
3541 B. F. Smith, Tygh Valley, Ore.
Class 2.
3601 A. G. Raveling, Brentford, S. D.
5x7 and smaller, various papers, of mostly general interest.
demy Ave.,

cinematographic interest. Eac selected because of its pre-emin and merit.

In addition to the Multi Speed Shutter—a new and improved model of which has just been put on the market—the Simplex Photo Products Company are making the Simplex Multi Exposure Camera, Simplex Motion Picture Camera, Simplex Motion Picture Projector, Precision all-metal Camera, Simplex Anastigmat Lenses, Simplex Flashlight Attachment, Simplex Photo and Motion Picture Chemicals, Simplex Multi-Flex Lamp, etc. Factory headquarters remain at Morris Park, Long Island, and the New York office at 114-116 East Twenty-eighth Street.

Eliminating the Limitations

Every user of dry plates is so continually obsessed with the fear that bad light conditions militate seriously against its production of good negatives, that few, even amongst the advanced workers, believe that exposures can be safely risked after five o'clock on a summer afternoon. One of the foremost landscape photographers in the country says: "I have long wished for an opportunity to make pictures at dusk in the country. As the sun sinks, shadows disappear, mists arise, the cattle gather at the pasture gate, sheep huddle under the trees, and nature is at its best. The harsh shadows of the day are gone, and there is a softness which tells the story of the beginning of the night. Not until I tried the

A. & H. Record Plate, was I ever able to make a picture which showed life, and yet, the beginning of the night at the same time." "Print this letter if you wish," he continues, "so that you can tell the photographers just what you have done in the way of eliminating the limitations of the photographer, and also tell them that your plate has everything that you claim for it—fineness of grain, absence of fog, and good keeping qualities."

Allison & Hadaway, of 235 Fifth Avenue, New York, will be glad to send Camera Craft readers a specimen package of any size of the plate, postage prepaid, upon receipt of the list price.

An Interesting List

Most of the enterprising photographic houses issue a catalogue showing the goods they carry in stock, and one of these has just reached us from Willoughby, of New York. Its seventy-two pages, completely indexed, and other good features, recommend it very strongly. It is copyrighted as a protection from infringements. Prices quoted are moderate; and, we would advise our readers to send for a copy. Mr. Willoughby is perfectly reliable, and makes it a point to ship orders the same day as received, and his customers can rely upon prompt service. Write today for a copy of his new catalogue, addressing: Willoughby, 810 Broadway, New York.

Death of Well Known Salesman

It is with sincere regret that we announce the death of E. A. Atwater, for the past several years connected with the Central Dry Plate Company of St. Louis. He passed away Friday, May twenty-second, at the home of his brother at Chadron, Nebraska, where his house had sent him several months ago on account of poor health, hoping that the change of air and climate would benefit him, but other complications set in and he failed to recover his health. Mr. Atwater was for many years connected with the M. A. Seed Dry Plate Company, and was known to photographers from Coast to Coast and from the Lakes to the Gulf. He was one of the most conscientious salesmen on the road, and his knowledge of photography and the underlying principles of dry plate making was very extensive.

Polygon Camera Catalogue

A handsome fifty-eight page catalogue of the Polygon cameras and the Rietzschel lenses has just reached our desk. It shows some excellent examples of lens work, and is typically German in the thoroughness with which it plays its part in informing the reader as to the goods listed. There is much to interest any photographer, and as it is sent upon request to any of our readers, no time should be lost in asking for a copy. Address, Meyer Camera & Instrument Company, 18 West Twenty-seventh Street, New York.

Hauff's Metol Excellent

Hauff's Metol has been the standard for years with many photographers, and it still holds its place with them. The excellency of this chemical has never been questioned, and those that have not tried Hauff's should do so immediately. One's dealer will supply it, or it can be secured direct from the American agents, G. Gennert, 24-26 East Thirteenth Street, New York.

Defender Managers Change

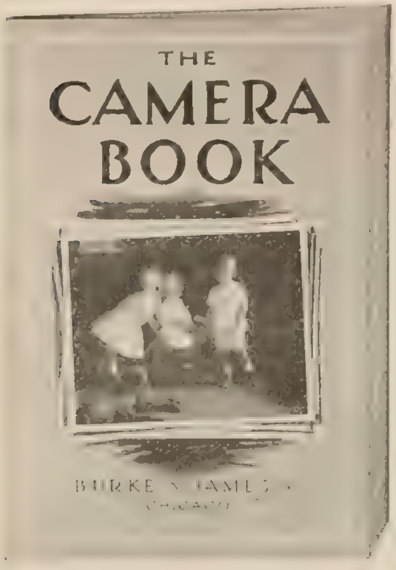
On June first W. J. Palmer became manager of the Cleveland branch of the Defender Photo Supply Company, Incorporated, as well as of the Pittsburgh branch, which has been under his direction for a number of years. A. W. Barton has resigned as manager of the company's Toronto branch and is succeeded by S. G. Bailey, well known in photographic circles in Canada.

A Very Fine Camera

One of the neatest cameras we have seen for a long time is the Ensign Focal Plane Press Camera. It is very compact, with an excellent Carl Zeiss lens equipment and the Ensign self-capping focal plane shutter that sets speed and shutter from the same dial. It is so simple to operate that the beginner, as well as the advanced amateur, can quickly become proficient with it. This camera is very handy, as it incorporates in one instrument all that can be desired for amateur and professional photography. Readers of this magazine should ask for a copy of the Ensign catalogue, postage prepaid, from G. Gennert, 24-26 East Thirteenth Street, New York.

"The Camera Book"

The Camera Book, a cut of which is shown herewith, is a handsome catalogue of amateur photographic supplies that features the Ingento and Cub lines of cameras manufactured by the well-known firm of Burke & James, Incorporated, Chicago. The contents is made up of most interesting matter, interspersed with reproductions of many charming examples of photographic work, in addition to the cuts and full descriptions of the cameras, lenses, shutters, tripods, enlargers, ruby lamps and innumerable other aids and utilities dear to the heart of the camera user. The book can be obtained of most dealers, or free upon request direct to Burke & James, Incorporated, 240-246 East Ontario Street, Chicago, Illinois.



Cooper-Hewitt Lights

The Cooper-Hewitt Electric Company, Eighth and Grand Streets, Hoboken, New Jersey, are sending out, free upon request, "Bulletin No. 49-A," "Bulletin No. 53" and "A Light Which Beats Daylight." This last is a reprint from *Popular Electricity* and very instructive to those interested in a light for industrial, scientific and photographic uses. The first mentioned bulletin covers suitable installations for portraiture, printing, enlarging, copying and motion-picture work, while the other is made very interesting by the large picture showing the studio of the Piograph Company equipped with Cooper-Hewitt lamps for the most rapid work. Our readers who may be interested in such should write, asking for these, as they are very instructive, aside from their advertising features.

Making Good Negatives

There is a world of satisfaction in having negatives which will give strong, pleasing prints. However, it is not always the good fortune of the camera owner to obtain the negative quality best suited to productive results. That weak film or plate which gives you faint, worthless prints can be brought into the printable class if you use Victor Intensifier. A practical demonstration of what this intensifier will do is shown on our advertising pages. Your dealer sells Victor Intensifier, but if he happens to be short in his supply you can get it direct from James H. Smith & Sons Company, 354 Cottage Grove Avenue, Chicago, Illinois.

Illinois College of Photography

F. M. Cork, Chinese student of 1912, writes us an interesting letter from Mexico. He is engaged in making moving pictures of the war operations in that country.

We note, among the prize winners at the recent Iowa State Convention of Photographers, the name of Glen E. Cook, student at the International College of Photography, in 1908.

Herman F. Holm, student of 1913, and Wm. E. Thompson, student of 1912, have returned to the College for review work.

A number of the students tried out their fast lenses and shutters at the Indianapolis Automobile Races last month.

The prizes in the May Portrait Contest at the College were won by Mrs. R. W. Raves, Miss Ethel Chaney and Mrs. Viola Merrill.

T. C. Brockett finished his course in photography last month and will engage in the business next Fall. He is under contract to play professional baseball during the coming summer.

Sakum Bhang, Korean student, has just finished a course in photo-engraving and three-color work, and will return to his native country to engage in the engraving business in the near future.

The Assur Process of Coloring

Since mentioning this new and practical process of coloring photographs in our March issue, we have had the pleasure of examining one of the complete sets in a neat metal box, just as supplied by the dealers. In addition, several fine examples of colored photographs have reached us from various sources, readers who have tried the new process and are loud in their praise of its ease and simplicity. Particularly satisfactory is the ease with which large surfaces can be covered with a uniform tint, this being a point that will be appreciated by all who have had experience in trying to use colors on photographs. Another valuable feature that the novice will appreciate is that of being able to wash out any unsatisfactory result and make a new trial with the same print. .The colors are strong, brilliant and they dry quickly. This, in addition to their transparent qualities, makes them most desirable. They are manufactured by the Chemische Fabrik auf Actien, vorm. E. Schering, of Berlin-Charlottenberg, Germany. Dealers are supplied in this country by Schering & Glatz, 150-152 Maiden Lane, New York. Write the latter firm for a new circular which they have just gotten out on these new Assur Colors.

Get Your Ensign Catalogue

If you have not yet received a copy of the Ensign Catalogue. you should send for one at once, as it lists and illustrates a complete line of the latest models of this efficient and well-constructed camera, ranging in style from the simple box form at two dollars and twenty-five cents, through a varied line of hand cameras, to a high-grade Reflex equipment selling at two hundred and forty dollars. This line of cameras as well as the other Ensign products are appreciated by camera users throughout the world, and you should become acquainted therewith. Catalogues will be sent our readers upon application to G. Gennert, 24 East Thirteenth Street, New York; 230 South Wabash Street, Chicago, Illinois, or 682 Mission Street, San Francisco, California

Being Up-to-Date

There are untold numbers of you photographers who have adopted up-to-date, live methods and processes in your printing rooms, dark-rooms, and reception rooms, who still trust to luck to have good light in your operating rooms. Your operating department is really the backbone of your business (failure there rendering your other departments useless), and there is where your improvements should begin.

A Victor Studio Flash Cabinet will make you absolutely independent of your skylight for the making of the very finest grade of bust, full-length or group negatives. Any number of users of this cabinet testify to the truth of this, and the manufacturers, J. H. Smith & Sons Company, 3541 Cottage Grove Avenue, Chicago, guarantee it.

Agencies in Demand

The manufacturers of the Visible Photo Printer, advertised on another page, advise us that they are more than pleased with the result of the few insertions of their announcement in our pages. The "Visible" has met with instant approval, several firms sending in prompt and gratifying orders, with request for exclusive territory, following the first showing of the machine. It is the desire of the firm to close territory with state agents all over the country for such territory as is still open, and dealers should make prompt application. Any of our readers who have made or intend making purchase of one of these exceptionally effective printers will be doing their dealer a kindness by calling his attention to the opportunity presented, in case the territory is not already secured by some other more enterprising firm. Address the Visible Photo Printer Company, 310-320 Washington Street, Brooklyn, New York.

Are You Next?

That extraordinary trial offer of The Photo Products Co., Chicago, is continued in this issue. So many who have benefited by this liberal proposition are recommending Instanto to their friends that the manufacturers wish to give all a chance to try it with little expense. Sending three full dozens of postal cards prepaid for twenty-five cents looks like a losing game. So it would be were it not for the fact that the large majority follow with a trial order, and also become Instanto boosters—sort of an endless chain. Any of our readers who are already Instanto users who have not received the new price list showing the extra hard, buff and linen surface grades should request a copy at once. The list will be sent to anyone even if the trial offer is not accepted. Apply to the Photo Products Company, Department E, 6100 La Salle Street, Chicago, Illinois.

Moving-Picture Cameras

Catalogue A, Projecting Apparatus, Moving-Picture Cameras, Projectors, Lenses, Stereopticons, is the title of a handsome little booklet just to hand. It contains illustrations and prices of the Urban Bioscope, the Williamson and the Ernemann moving-picture cameras, a full line of Cinematograph lenses by the best makers, tripods, tripod heads, projectors and other accessories. It is published by Burke & James, 240-246 East Ontario Street, Chicago, Illinois. A copy will be sent, upon request, to those who mention this magazine, we have no doubt.

Keeping Film Negatives

Keeping your negatives without an Eastman Film Negative Album is like bookkeeping without a ledger. The Film Negative Album provides a strong, transparent tissue envelope for each film negative, each envelope is numbered, and one hundred envelopes are bound in strong cloth covers. There is a complete index in the front of the album for a title or description of each negative, and the negatives may be seen through the transparent envelopes without the necessity of handling them. Negatives worth keeping at all are worth keeping in one of these very convenient Eastman Albums.

A Fruitful Field

Many photographers entirely neglect such lines of work as home, store and factory interiors. There is a big field for this class of work in practically every city. Go out and get your share now. Take a box of Victor Flash Powder and a Victor Portable Flash Bag with you and you are prepared for anything. The powder possesses remarkable illuminating strength and makes but little smoke or report. They are made by James H. Smith & Sons Company, 3541 Cottage Grove Avenue, Chicago, Illinois.

Get a Copy, Sure

"Simplicity and Success in Photography" is the title of a most informative and instructive booklet containing a wealth of practical photographic knowledge for the worker who wishes to turn out a larger proportion of good pictures. It is sent free upon request by Burroughs, Wellcome & Company, Literature Department, 35 West Thirty-eighth Street, New York. Do not neglect sending for a copy and you will thank us for calling your attention to it.

Well Worth Sending For

There is a very meaty little book, "A Short Talk on Negative Making," that can be had for the asking; and the photographer who neglects to drop a line asking for a copy is missing a good opportunity to read a most instructive little book. Simply mention CAMERA CRAFT and ask that a copy of the booklet be sent, addressing, Hammer Dry Plate Company, Ohio Avenue and Miami Street, St. Louis, Missouri.

Those Cheap Frames

Practically all frame makers are thrifty enough to make up their small pieces of mouldings into frames which they place on sale at a price much lower than that asked for frames made to order in the regular way of business. The photographer, of all persons, should be the one that can best take advantage of any bargains offered in this way. He can always fit the frame with a print or small enlargement from some one of his negatives. Often he can co-operate with the framer by offering to supply a good quantity of small glasses, say 4x5 or 5x7, in the form of waste negatives that have been cleaned of their emulsion, the negatives themselves being practically valueless as such. And even the best workers accumulate not a few of such undesirable negatives.

Dustless Dusters

Immerse soft fabric like the better grade of cheese cloth in a liquid made by mixing thirty parts of paraffine with ten parts of rape-seed oil, slightly heating and then stirring in one part of gum benzoin. Allow the cloth to become thoroughly saturated with this liquid while still warm, wring out well and then hang to dry in a place where the drying will not be too rapid.

Preventing Frosting of Glass

Two ounces of glycerine, one dram of sodium chloride, and one ounce of water make a solution that, wiped over glass by means of a piece of wetted gauze, working in one direction only, is advised to prevent the misting of glass wind-shields. It should prove equally effective for show cases, windows and the like.

XXI No. 7 JULY, 1914 Price, 10 Cent

CAMERA CRAFT

SAN FRANCISCO
CALIFORNIA

Think of Cyko and you think of photographic success

THE successful photographers are users of CYKO.

Most of the prize-winning pictures are made on CYKO.

The cheap amateur finisher who uses cheap papers, always keeps a little CYKO on hand for the customer "who knows."

The manufacturers of CYKO have won out against big odds in everything they have undertaken:

In making the best photo printing mediums.

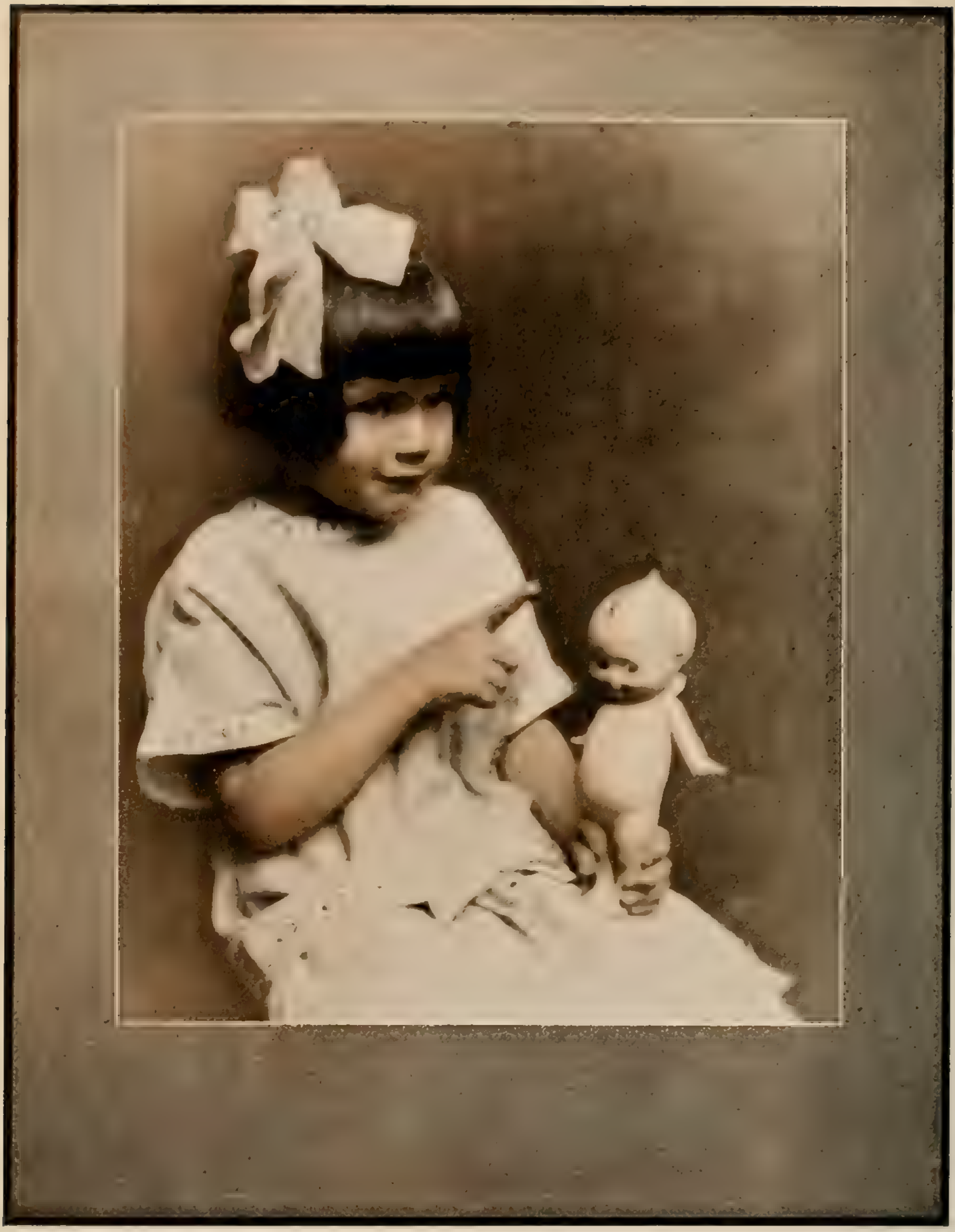
In constructing the best cameras.

In producing the best film, and in protecting the inventor from film substitutes that have infringed his rights.

To think of CYKO is to think of success, of right against might, of the triumph of justice, and to think right is to do right.

Ansco Company

Binghamton, N. Y.



THAT NAUGHTY KEWPIE JUST WON'T"
By J. P. EDWARDS

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY
FAYETTE J. CLUTE, Editor and Proprietor
CALL BUILDING SAN FRANCISCO CALIFORNIA
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The Soft-Focus Lens

By John Paul Edwards

With Illustrations by the Author

The soft-focus lens is at last coming into its own. Improvements, made in the latest lenses of this type, adapt them more fully than heretofore to the requirements of the average amateur and their almost universal use for serious pictorial photography is evidently only a question of time.

For the benefit of the uninitiated, let us briefly define the soft-focus lens. It is an objective, single or double, whose component parts are only partially corrected for chromatic and spherical aberrations. This intentional lack of optical perfection results in an image in which the details are softened and blended; the masses handled more as a painter would render them with his brush or crayon; the aerial perspective and atmosphere are truthfully retained, the luminous qualities of light are better shown, and the different planes more truthfully assume their relationship to each other.

Most enthusiastic and earnest pictorialists must perchance have chafed at the extremely mechanical limitations put upon their desire for artistic expression by the conventional camera, lens and equipment. The diffused-focus lens has placed in their hands an instrument affording the widest latitude and power in gratifying their desire for more freedom of expression. The lens must bear the same relationship to the art of the camera as do the brush and pigments to the older art of the painter.

"What lens shall I buy?" is a question ever asked and ever discussed by the ambitious amateur. For architectural, for scientific, for all manner of strictly commercial work, he should get an anastigmat and get a good one. There are more than a dozen standard makes, one as good as the other, and there is little danger of a mistake. One of them is a splendid thing to own and to proudly brag about when a bunch of rabid enthusiasts get together and talk shop. However, if one's interests lie in the direction of pictorial photography, there is but one correct answer to the question, and that is: the soft-focus lens. To the casual snapshooter, the confirmed sharp-as-a-needle, see-every-blade-of-grass fiend, this lens makes no appeal; it is distinctly beyond his ken. To the true lover of pictorial photography, the one who understands its possibilities and respects its great future as a fine art, the soft-focus lens offers untold opportunities as a medium of artistic personal expression. Fine detail is nearly always required in many branches of the photographic science, but seldom so in the pictorial. What is wanted in this latter field is a broader, sketchier treatment of the subject; a massing of the lights and shades, a bigness that lets the eye grasp the picture as the maker saw it instead of being confused by a maze of distracting details.

The soft-focus lens was originally created to fill the demand of thinking pictorialists. These workers were resorting to all sorts of mechanical devices, such as printing through a sheet of celluloid, printing from the glass side of a negative, printing through bolting cloth and what not. They were making their negatives with lenses racked slightly out of focus, they were jarring the camera during exposure, and a few other things. All these tricks helped a little, perhaps, but the results fell far short of the ideal, even when the mechanical trickiness was not too evident and obtrusive in the final print. From its inception, the soft-focus lens was taken up with enthusiasm by the best workers and its use is fast becoming quite general.

One should not judge this form of lens by the weird work of some immature Photo-Secessionist. Judge it by the big, fine work of such master pictorialists as Garo, Porterfield, Goldensky, Miller, Anderson, Hammond, Coburn, Mrs. Kasebier, Steiglitz, White, Dr. Ruzicka and a host of others who have adopted it practically to the exclusion of other types. The lens is right in both principle and practice. It cannot fail to improve one's work as it has the work of the hundreds of serious workers who have already adopted it. The cost of the best of these lenses is low. Get one, learn its uses, its advantages, its many charms, its possibilities for individual expression.

THE CAMERA: Any view or folding camera with a long draw and a large front-board will answer. Remember distinctly that these lenses are, on account of their high speed, of large diameter, and of necessity the lens board must be larger than is usually provided on compact folding cameras. The reflecting type of camera is favored by many, especially for genre work and home portraiture. The Graflex people have just put on the market a Home Portrait Graflex which is a veritable marvel of efficiency and convenience, and as most cameras of this type have large front-boards, they adapt themselves nicely to the soft-focus lens. Personally, I think that an ideal combination would be a strong 4x5 folding camera with a long draw, say about sixteen inches, and a front-board about three inches square, with a double soft-focus lens of seven to nine-inch focus, preferably the latter if the camera will accommodate its bulk. A rigid tripod should of course be provided.

A PAUSE FOR REPAIRS

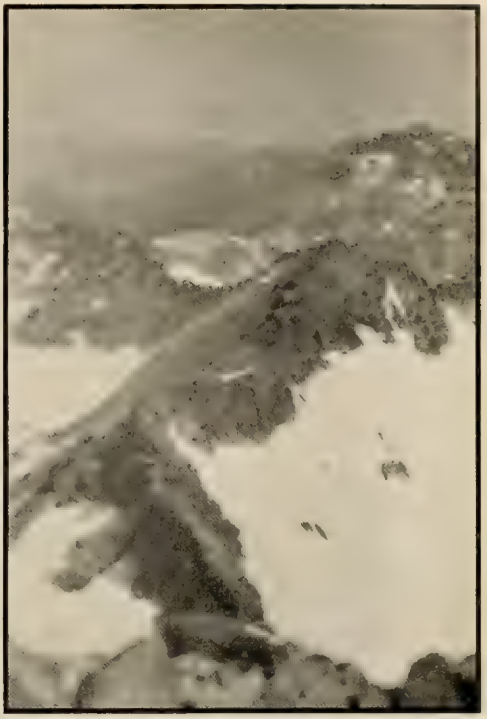
If the lens is purchased in a mount or in a studio shutter, and nearly all soft-focus lenses are so sold, it will be necessary, particularly for outdoor work, to have fitted a shutter working at a fairly high rate of speed. I am partial to the focal plane shutters on account of their efficiency, particularly when used indoors at slow speeds. Needless to explain, if one be working at full aperture, say f-4, in bright light out of doors, the exposure will have to be rather short.

THE LENS: There are several well-known American makes of soft-focus lenses; the best known being the Smith Semi-Achromatic, the Spencer-Portland, the Turner-Reich, and the Verito. All these are good and each has its distinguished advocates, but to my notion, the ideal one for the average pictorialist, and certainly the best one for the worker who is just taking up this type of lens is the Verito. It represents the logical evolution of the diffused-focus type. There is a distinctive, sane individuality about Verito negatives, a soft roundness and a mellow diffusion that give them a charm all their own. Some of these soft-focus lenses are only suited to the most advanced workers, as they are inclined to give entirely too much diffusion and a great amount of flare unless the subjects and lighting are very carefully selected and handled. The Verito, though, seems to be quite free from the faults of some earlier types of these lenses and to give just the proper amount of diffusion, with a most pleasing breadth and roundness. Whatever lens one selects, the first acquisition should be a doublet instead of one of the single types, the advantage of the doublet being that the rear combination can be used alone to afford one a splendid pictorial objective of long focus, giving negatives of charming drawing and softness just a little different from those afforded by the equivalent doublet.

"L'ALLEGRO"

I hold no brief from any lens maker; but, as the Verito is different from all others of its tribe and I like it immensely, I must perforce sing its just, due praises. In its use, even at full aperture, the diffusion is quite evenly distributed over the entire negative. All the atmospheric charm and subtle lightings of a landscape can be retained in a Verito negative. Being of the doublet type, the rear combination can be used to fine purpose when a lens of long focus is required. The rear combination of the nine-inch lens has a focus of fourteen inches and a working aperture of about f-7.5. There is an apparent great depth of focus, owing to the soft diffusion, even when used at full aperture. In this respect it certainly differs from the anastigmat. Witness an anastigmat used at an aperture of, say, f-4.5, focused on an object, say, ten feet away. Distinctly portrayed, almost violently so, are alternate belts of mushy indistinctness and microscopic sharpness, fearful, in their weirdness, to a lover of nature. Whichever make is purchased, learn it, stay by it, live with it, get acquainted with it. One's work should improve quite materially as he masters the capabilities of this artistic objective, and as acquaintanceship increases one will marvel at its versatility. Several workers could photograph the same object at the same time and from the same identical position and each get negatives quite different from the others through different focusing and lens apertures.

A MOUNTAIN ROAD IN CALIFORNIA



THE BACKBONE OF A CONTINENT

THE PLATE: For outdoor work it is wellnigh imperative that a double-coated or a backed plate be used. The best work is made possible by use of a double-coated, orthochromatic plate such as the Standard Orthonon or Cramer's Isonon; using with such plates a four or five times color screen. A plate that I am just becoming acquainted with and of which I hear glowing reports is the Wellington Anti-Screen, preferably backed. As it gives a rendering of colors about equal to that of the orthochromatic plate and a three times screen; and as it is just a trifle faster than our ordinary fast plate, it has a big advantage indoors or in weak lights. For portrait work, either at home or in the studio, the Seed 26X and the Cramer Banner are excellent. One should avoid the extremely soft-working portrait plates for the best work.

THE DEVELOPER: Whatever plate be used, whether indoors or out, one should develop with a soft-working developer and keep the negatives a trifle thin; harsh or contrasty developers are fatal to good soft-focus negatives. Rodinal appears to be the one best developer for this work. It is particularly effective when used in a tank in the proportion of one part Rodinal to sixty of water, developing for twenty-five minutes at sixty-five degrees Fahrenheit. Other developers I have found good, sometimes, but after a lot of experimenting to no particular purpose, I am ready to pin my faith to Rodinal. Negatives should be fixed in a good, fresh acid bath, washed quickly but thoroughly, and dried in a current of air that is cool and dry, as a warm, muggy atmosphere will surely increase contrasts and probably spoil the delicate balance of a good diffused-focus negative.

SUBJECT MATTER AND COMPOSITION: One must remember that the soft-focus lens is, in its very nature, a medium for broad artistic effects, not for pin-point detail; and the camera artist, like his brother of the brush, should build up his picture from effective masses and bold units rather than from little, distracting details. The soft-focus lens does not blot out detail, but softens and blends it so that it contributes to, rather than detracts from, the ultimate effect. Therefore, subjects with a principal unit of interest, such as a fine old tree, a rugged farm house, a winding brook, a waterfall, a story-telling genre, should be chosen. Let there be one main point of action or interest, with the rest of the picture contributory to it.

In landscape work and work akin thereto, one should avail himself of that most pleasing and subtle capability of the soft-focus lens, its charming rendition of light and atmosphere. One should get out early in the day or late in the afternoon when the shadows are long and the lighting soft and expressive. Avoid midday, as it is productive of little other than disappointment to the pictorialist. Gray days and rainy days contribute their own particular charm. With the extreme speed of this type of lens, weakness of the light offers no material drawback. The faint mist of early morning in spring and fall is particularly suitable.

Lighting is not everything in a successful picture, but it is such a big factor that it must be accorded an important position in the making of one's picture. Form the habit of jotting down in a note book the location of picturesque bits of landscape that, under certain light conditions, might prove to be good subjects; and then, either the next day, the next week, or next month, or whenever light and atmospheric conditions are such as to bring out the best in the subject, photograph them. In your compositions, seek, above all, for simplicity. Extreme contrasts of light and shade are to be avoided, striving rather for a smooth, even blending of tones. If it be one's good fortune to inspect a truly great salon print, he will surely find that the subject is a simple one, and simplicity is particularly necessary in soft-focus work, as it is the province of the lens to blend out the superfluous small details and give an artistic bigness to the picture. Avoid that freak of nature, the bald-headed sky. Not that there must be clouds over every landscape, but there should at least be an even-tinted or softly shaded sky. Clouds are easily printed in from other negatives, and white paper does not truthfully portray any sky condition that is at present known to the scientists. A white-paper sky will positively unbalance the finest of landscape compositions, and orthochromatic plates and color screens, if rightfully handled, will prevent this pictorial calamity.

PORTRAITURE: Perhaps the most promising field for the amateur lies about the home; at least I have found it so. Here the soft-focus lens is without a peer, hopelessly outclassing the anastigmat, the rapid portrait, and all other types of lenses. For home portraiture, particularly child portraiture and genre work, it is wellnigh perfect. It entirely does away with retouching, giving an image absolutely free from wiry lines and over-accented details. It gives an evenly balanced softness of outline and features while retaining the expression, the indefinable personality, present in every face, lacking which a portrait is nothing.

THE MASTERPIECE

Have you ever taken a treasured negative of your youngster to a retoucher to be "softened up a trifle" and have it come back "rounded up," "grained," "worked up," and what not? Fifteen cents' worth of retouching will ruin any child portrait; twenty-five cents' worth and the child's own mother would hardly recognize it. The soft-focus lens does away with all this fussy retouching that, in most cases, robs the picture of half of its personality and naturalness. The little ones at work and at play provide an endless amount of the best pictorial material. If you have a young hopeful of your own whose life and growth you may be recording with your camera, by all means employ a soft-focus lens. It will perpetuate the likeness, the passing expression, the very spirit and soul of the child in a manner that is both pleasing and gratifying. With it one can secure that soft texture of the skin, that roundness of the features, that unexplainable charm and expression of child life that the harsh perfection of an anastigmat entirely destroys with its sharp limning of facial details.

In child portraiture and genre indoors, keep the work in a high key. Have the backgrounds white, light gray or brown, preferably plain. Natural-colored burlap is ideal for a home-made background. If a portion of the home surroundings are to be included in the picture, let the accessories be few and of the simplest nature. Avoid bold or pronounced patterns of draperies and wall paper in your backgrounds, as they tend to distract the eye. The best colors for the "picture" dress are delft blue, grays, light brown or pink. Avoid white dresses and shoes wherever possible. Of all dress colors for genre work, I think delft blue is the best.

The extreme speed of the soft-focus lens permits of very short exposures indoors, a big advantage when the quick-motioned, restless little ones are the subjects. In working outdoors, follow the same general rules. Choose simple backgrounds, those free from light spottiness, and avoid white dresses and shoes. Make all exposures early or late in the day when the lighting is soft and expressive. Try exposures across and against the light. Charming sketchy effects can be secured with the rays of the early sun just riming the little heads from behind with the face in shadow. Full exposure and soft development must be the rule in outdoor work to avoid unpleasant contrast and flare. In all classes of portraiture, contrasts in color of ground and draperies could be avoided. A strongly lighted face against a dark ground will surely show a very undesirable amount of halation, as will a white collar in strong light against a dark coat. This halation is a defect too often seen in soft-focus portraiture, yet one easily avoided by proper selection of ground, draperies and lighting. Soft lighting is to be sought; contrasty, studio lighting avoided. A rather flat lighting, with the shadow side well illuminated so as to harmonize with the light side, is what is wanted. Then give full exposure and avoid over-development in order to retain in the negative all the soft charm possible with this lens.

FOCUSING: The aperture used in a soft-focus lens determines the degree of diffusion in the negative, the greatest diffusion of course being at full aperture. Stopped down to f-16, almost any of them will give an image equivalent to that given by a rapid rectilinear at the same aperture. While many subjects will admit of the use of the full opening, most workers stop down a trifle as a

AN INTRUDING SUNBEAM

DEEP IN THE GORGE

THE PASSING STORM

general rule. In portraiture, with the Verito lens for instance, a stop close to f-5.6 seems to give the most pleasing and rational negative. In landscape work with a mellow morning or soft evening lighting, an aperture of f-4 to f-5.6 gives most pleasing results. In the more brilliant light of midday an opening of f-5.6 to f-6.3 will probably be more satisfactory.

The difference in degree of diffusion obtained with the several stops of a soft-focus lens is very pronounced. This unique feature is one of the strongest factors in making the lens a power in the pictorialist's hands. It offers him the widest latitude in the amount of diffusion secured and it offers him a big chance to work his ideas, his personality and his individuality into his pictures.

FOCUSING: The focusing of a soft-focus lens is quite different from the focusing of an anastigmat. Instead of an exact point of visual focus, easily determined, there appears to be a perceptible "belt" of focus. The lens can be racked back and forth quite a bit with but little change in the ground-glass image. There is, however, one point where the image seems at its best. The right way to focus is to start at full aperture at the point where the image seems the clearest and most free from flare, and then stop down until the amount of diffusion is in accord with one's ideas. One should alternately open up and stop down a few times in order to study the different effects offered. Do not, as I have seen advised, focus with the lens stopped down to wiry detail and then open up. You can never get anywhere by that method, as opening up will usually alter the point of most effective focus. If using a color screen, have it in position on the lens when focusing.

One's best efforts should be put forth in selecting the composition and lighting at the ground-glass stage. In using a soft-focus lens, the necessity of hand work on the negative is avoided; in fact, any penciling and puttering done on the negative is apt to look very crude and unsatisfactory in the print. For this reason, if not for others quite evident, one should put in his best efforts in the preliminary stages by getting all the picture on the ground glass; the lens has magnificent pictorial ability in retaining it. Fine, straight enlargements from unretouched negatives should be the rule rather than the exception. To use a rather hackneyed phrase: "Get it in the negative."

ENLARGING: Presuming that one has some fine, sharp-focus negatives, taken before he "saw the error of his ways," let him try enlarging them through his soft-focus lens. The resultant enlargements will have a new charm, one of softness, roundness and breadth, never suspected possible from the negatives. I will venture to say that the worker will be tempted to make new, diffused prints, from all his pet negatives before he is through. The fine effect is entirely different and unmeasurably superior to that secured by enlarging through diffusing devices such as bolting cloth or ground glass. In enlarging work, an aperture of f-5.6 to f-6 seems to afford the proper amount of diffusion.

THE PRINT: Do not expect to get the full charm of diffused-focus work in a small contact print. Generous sized prints show the work to better advantage as they enable the picture to be viewed at arm's length, as is proper. A print approximating 8x10 inches in size will show up splendidly at that distance, while 10x12 and 11x14 are ideal sizes for exhibition work or for the home walls.

Diffused negatives call for soft tones and sketchy effects in the print. Gray is the one best tone for the pictorialist. More than any color it carries out the sought-for idea of diffusion. A good brown or sepia will occasionally work out well, but seldom does the wise worker with the soft-focus lens stray from a good gray in his bromide enlargements.

A splendid developer for the bromide print, one yielding beautiful grays and clean whites is Rodinal, fifteen minims of Rodinal to the one ounce of water seeming to work well on all brands of bromide paper. This strength should be used for plucky prints and diluted a little for softer grays. Rodinal is a most useful and efficient developer, one with which the worker should early get acquainted.

Pictorial photography, as a medium for personal, artistic expression, is yet in its infancy. Some day it will surely take high position as a fine art. During the last few years it has made decided advances toward this position, due largely to the efforts put forth by thinking pictorialists to get away from the mechanical limitations of purely technical photography.

We have seen great advances made in the media of the art. Printing processes such as oil, bromoil, gum-pigment, and others have been devised and improved to permit of personal control and individuality in the print. However, the greatest general advance toward the final goal has been registered by the soft-focus lens, as it has afforded a means of making negatives which, by straight printing methods, will give pictures of unquestionable artistic worth. To be progressive, one should work along the line of pictorial progress. He should add one of these invaluable objectives to his equipment; and, after having become thoroughly acquainted with it, I am sure he will agree with me in all I have said in its praise.

Some Notes Regarding Lenses

By Leroy G. Gates, I. P. A. No. 3546

PART I

EDITOR'S NOTE.—This article the author calls "A few simple facts with which every camera user should be familiar. Of especial advantage to users of roll film cameras where careful focusing on a ground glass is impossible. Of growing importance to users of the miniature cameras with their small lenses giving such wonderful depth of field." The attention of our readers is called to Mr. Gates' commendable differentiation between "depth of field" and the too loosely used "depth of focus," by substituting for the latter a new and equally fitting term, "depth of image." Owing to its length, this article will run through two issues and our readers will kindly pardon this departure from our practice of complete articles only.

Surely the more serious worker, and no doubt even the amateur who indulges only in snapshots, will find a degree of helpfulness and satisfaction in an understanding of the simpler facts regarding the action of his lens. The working formulæ and optical knowledge necessary for the designing of lenses and the avoidance of the different errors or aberrations involved, are not at all necessary to the producer of good photographic work. Once a photographic lens is designed, manufactured and in use, it so nearly obeys the law governing a simple lens that, in a study of its behavior in the making of pictures, one need only consider it as such, or, as it is sometimes called, a "spectacle" lens.

Quite generally a photographer, when asked as to the speed of his lens, will advise that it is f-6.8, for example, and that this means that the focal length of the lens, divided by the aperture, will equal six and eight-tenths. Such a statement is only approximately correct. The focal length of a lens, divided by the diameter of the largest *effective* opening or stop, will give the speed or f value of such largest stop and consequently the speed of the lens. For instance, if the focal length is five and seven-eighths inches and the effective aperture seven-eighths inch, then $5\frac{7}{8} \div \frac{7}{8} = 6.72$, the speed. This may not be new to a majority of my readers, but not so many are able to determine the focal length and effective opening of a lens. When the lens is focused on a distant object, the distance from the ground glass to the center of the lens is not, except in very rare cases, the equivalent focal length which we want. Also, the diameter of the diaphragm is not equal to the diameter of the effective opening, except in the case of a single lens with the diaphragm placed in front of it. The equivalent focal length is usually slightly less than the distance from the center of the lens to the ground glass and the effective opening is greater than the diaphragm opening. There are simple methods by which these two and other quantities may be accurately measured.

EQUIVALENT FOCAL LENGTH: To find the equivalent focal length, fasten the camera on a piece of board, one a little wider than the camera and having one straight side. Place a sheet of drawing paper on a good, firm card table, set the card table just inside an open window, with the camera and board resting thereon. The camera should be focused for distant objects; and, on the ground glass, at about one-half inch from each side, there should be drawn a fine vertical pencil mark. Shade the ground glass and locate thereon some distant vertical object such as a telegraph pole or the corner of a building. Then, grasping the board upon which the camera rests, swing it, and consequently the camera also, as if upon a pivot located just beneath the lens, to see if you can conveniently bring the image of the telegraph pole to coincide with the vertical line near one end of the ground glass. Now swing in the opposite direction and make sure that the same image of the pole can be made to coincide with the line at the other side of the glass. This angle, through which the camera swings while bringing these two pencil marks to coincide in turn with the telegraph pole image, must be secured. To get this, when the image coincides with one of the lines, take a sharp pencil and draw a line on the drawing paper along the straight side of the board on which the camera rests; and, after swinging the camera and board as before until the image coincides with the line at the other side of the ground glass, draw another line on the drawing paper as before. The camera must not be allowed to slip on its supporting board during the above maneuvers. Take the camera and board from the table and the two straight lines, when continued until they intersect, mark the angle through which the camera was turned. With a pair of dividers or compasses bisect this angle, draw two lines equidistant from and parallel to this bisector, one on each side, their distance from the bisector to be one-half the distance between the two pencil marks on the ground glass. Extend these last two parallel lines to where they will intersect the lines forming the angle. Mark these two points of intersection and connect them with a straight line. Note where this line intersects the bisector of the angle. Measure from this intersection to the apex of the angle and you have the equivalent focus of the lens. If that sounds involved or complicated, try it and it will be found very simple.

EFFECTIVE APERTURE: In the evening, without having changed the focus of the camera, replace the ground glass with a piece of plain glass which has been prepared in the following way: On that side which, when inserted, must be facing the lens, glue a piece of opaque black paper to entirely cover the glass. In the center of this paper, to come directly back of the center of the lens, there should have been made a small, round pinhole. With this in place in the camera, put a bright light directly back of the pinhole, allowing the light to shine through the hole and thence to the lens. The black paper should be large enough and so arranged as to let no other light enter the camera other than that through the small hole. Cover the light with a focusing or other cloth so as to make the room absolutely dark. Open the lens diaphragm wide and with the shutter closed, place, by the aid of a ruby lamp, a small piece of unexposed dry plate, film, or bromide paper over the front of the lens as a cap, holding it there by means of rubber bands. Open the shutter and expose the sensitive surface to the pinhole light coming through the lens. If using plates or films for this, try two to four minutes' exposure and then develop and fix as usual. If need be, repeat, changing the time as found necessary until a distinct circle of light is shown. Even the first trial should give a negative having a round, black imprint, and this image is the exact size of the effective opening. By measuring

A BALANCED ROCK—ARIZONA. Notice size of persons on slope below and to left. 1/50 second at f-8, Eastman film

CONGLOMERATE ROCK FORMATION—ARIZONA. Twenty miles northwest of Morenci. 1/50 second, f-8, Eastman film

its diameter, one has the data necessary to calculate the speed of the lens as suggested in the third paragraph of this article.

Those who have kodaks or other roll film cameras that have no focusing screen should purchase a piece of ground glass for this purpose. Remove the back cover of the camera and place the ground glass over the rectangular opening and against the small rollers just where the film ordinarily comes. Rubber bands will hold it in place.

EXACT DEPTH OF IMAGE: Having determined the above three quantities for one's own lens, viz.: F = equivalent focal length, E = effective diameter of diaphragm, and R = speed of lens, one can investigate some very useful though simple facts. Depth of image may be defined as the distance forward and backward through which one may move the ground glass and still keep the

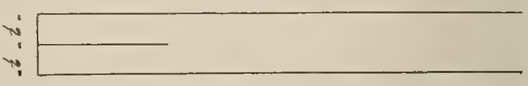
ARIZONA WILD FLOWERS—Examples of calculated bellows extension used in taking subjects in natural surroundings where motion necessitated short exposure and consequent large stops affording very little depth of field object in focus. Try $N = \frac{2DRO}{O-F}$. In this equation D = diameter circle of diffusion in inches, O = distance from lens to object in inches, N = depth of image in inches. We will try the formula and see what it gives us and its use. Suppose a seven-inch focus lens; distance of object forty feet, or four hundred and eighty inches; diameter of circle of diffusion we will take as one one-hundredth inch; diaphragm stop to be f-16. Then $D = \frac{1}{100}$, R = 16. O = 480, F = 7. Then

$$N = \frac{2 \times \frac{1}{100} \times 16 \times 480}{480 - 7} = \frac{\frac{15360}{100}}{473} = \frac{153.6}{473} = \frac{32}{100} = .32$$ or about one-third of an inch.

This means that the lens and therefore the indicator on the focusing scale may be moved backward and forward a distance of one-third of an inch while objects at forty feet distance are still in focus to the required degree. Of course this range, in this particular example, must be with the forty-foot mark as its center; in other words, the allowable movement is one-sixth of an inch either side of the forty-foot mark.

This should all be quite clear with perhaps the exception of the "circle of diffusion." This is a measure of the fineness of the definition. If D is considered as one one-hundredth inch, it means that a very small dot or point in the object will be reproduced on the negative as a dot having a diameter not greater than one one-hundredth inch, which is usually considered a very fair degree of definition for contact prints and may be used for general work where no enlarging is to be done. Where the pictures are to be enlarged, it may be necessary to have a sharpness in the negative which might require that the circle of diffusion be only one three-hundredth of an inch in diameter. The author believes the above limits to be fairly generally accepted, although it is to a considerable degree merely a matter of personal opinion. Let it suffice to repeat that we will be quite safe if we require one one-hundredth of an inch circle of diffusion for contact prints. Hereafter when an object is mentioned as "in focus" it will mean in focus to the required degree as indicated by the circle of diffusion, which of course can be determined upon to suit our purpose. Whenever the distance to the object is over ten times the focal length of the lens, a simplified form of the equation may be used, a form that will give sufficiently accurate results that, while not strictly accurate, are on the safe side. The simpler formula: $N = 2DR = 2\frac{1}{100}\ 16 = \frac{32}{100} = 32$ inch.

DEPTH OF FIELD: The practical uses of this formula for determining the depth of image are at first somewhat obscure, but let us demonstrate how convenient a knowledge of it may be. Cut a slip of stiff white paper two or three inches long and one-third inch wide. At one end draw a short line bisecting the width into two parts of one-sixth inch each, as illustrated in the simple little line sketch herewith. Taking the camera with the seven-inch lens and focus on fifteen feet, using the focusing scale. Then hold the strip of paper down on the scale, the short mark placed lengthwise with those thereon, the short line on the paper at the fifteen-foot mark on the scale. The part of the focusing scale covered by the end of the strip of paper will represent the depth of field with f-16, which is quite important knowledge. In this example, one edge of the paper extends to about where the thirty-four and one-half foot mark would come on the focusing scale, were it



graduated that close, and the other edge extends to about the nine and one-half foot mark. From nine and one-half feet to thirty-four and one-half feet is our depth of field with stop f-16, as we used f-16 in the formula, and any objects between those two points are in the required fineness of focus. The last sentence will give as good an idea regarding depth of field as any definition.

Having once determined the width and cut the necessary strip of paper, how much easier to apply it to the focusing scale than to hunt up a table giving the depth of focus. And there is still more help for us here. Note this carefully: If one figured the depth of image in the above case to be thirty-two one-hundredths inch with f-16 stop, then with f-8 it will be just one-half of what it formerly was, or sixteen one-hundredths inch. Try the formula for a three-inch and a seven-inch lens at f-8 and you may be surprised to find exactly the same depth of image with both lenses. Therefore the following table of depth of image will apply to all lenses irrespective of size. The depth of image is given in decimal parts of an inch and also in sixty-fourths and calculated for objects which are very distant.

F-6.8.....U. S. ....depth of image, about .136 or 9/64 inch
F-8 ......U. S. 4....depth of image, about .16 or 10/64 inch
F-11.3....U. S. 8....depth of image, about .32 or 14/64 inch
F-16 .....U. S. 16....depth of image, about .32 or 20/64 inch
F-22.61...U. S. 32....depth of image, about .45 or 29/64 inch
F-32 .....U. S. 64....depth of image, about .64 or 41/64 inch
F-45.2....U. S. 128....depth of image, about .90 or 58/64 inch

There is a very simple method of keeping the above information at hand ready for quick application. Suppose the pointer which is used in connection with the focusing scale of one's camera were made as shown:

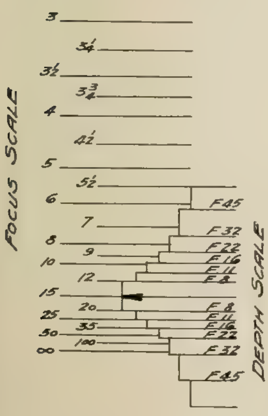


DIAGRAM No. 1

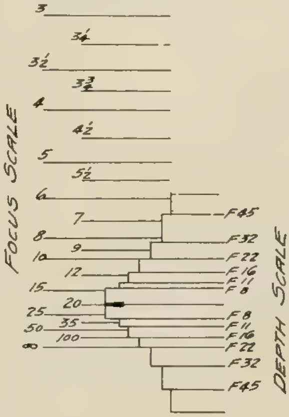


DIAGRAM No 2

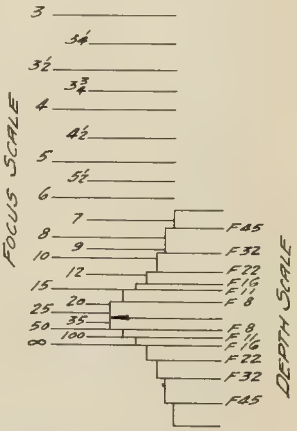


DIAGRAM No 3

With the scale and pointer, the latter as above, employed as usual, the depth of field is instantly indicated. Wherever the pointer is set, the distances on the focusing scale which lie between the marks labeled "F 8" will be in focus if stop f-8 is used, and so also with the other stops. It will be noticed, therefore, that the depth of field for any diaphragm stop is plainly indicated. For instance, in diagram No. 1, focused on fifteen feet, if stop f-8 is used, everything between about twelve and twenty-one feet will be in focus, while if stop f-22 is used, everything from about eight and one-half to seventy feet will be in focus. In diagram No. 2, focused on twenty feet, if stop f-11 is used, the depth of field extends from thirteen to forty-two feet.

After studying these three examples, it will become apparent to the reader that, with this device, any combination of stop, focus and depth of field may be determined. To apply: Suppose one wanted to take a banquet room by flashlight and wished to use the largest stop in his seven-inch focus lens that would give sufficient depth of field. If the nearest guest is thirteen feet away and the most distant forty feet away, referring to diagram No. 2, he would see that stop f-6.8 would clearly focus objects from sixteen to thirty feet, while stop f-11 gives thirteen to forty-two feet in focus. One should therefore use stop f-11 if he wishes to be particular regarding the sharp definition of all the banqueters. It is but proper to state that this scheme is one that I notice is applied to cameras made by R. & J. Beck, Limited, of England.

(This article will be completed in the next issue.)

It seems to be a law of life that one comes to resemble the things one loves. The lover of beautiful things, whether it be perfect fruit or exquisite flower or choice plant, will unconsciously develop a well-rounded habit of thought and character.—EUGENE SECOR.

THE MOOSE HUNTER By ARTHUR ALAIN

Laying the Foundation

The First Step Toward Cultivating a Larger Photographic Market

By J. Clyde Wilson

Hugh Chalmers, the automobile manufacturer, tells an interesting story of a baker in a little Indiana town, to whom he was once trying to sell a cash register. This was in Mr. Chalmer's early days as a salesman with the National Cash Register Company, before he had become sales manager of that great concern. It was not the baker's busiest season; and, in his endeavor to sell him, Mr. Chalmers had had him over to his demonstration room in the hotel where he was staying, three times that day. But, in spite of his well-spun arguments, he had not been able to sell the old baker a cash register. He had used the best arguments known to his experience upon him, arguments that had enabled him to sell the largest department stores, shrewd buyers who weigh carefully every statement you make; but still the old baker would not buy. Finally, in despair, he turned to the old baker and said: "Look here, Phil,"—he had begun to call him by his more familiar first name by this time,—"I'll tell you what I'll do. You have seen this cash register demonstrated, and you have agreed that it possessed unusual merits, and that it would be a good thing to have one in your shop, haven't you?"

The baker agreed that he had.

"And you have admitted," continued Mr. Chalmers, "that it is not the price that is in the way, and I know that it isn't, too. You have agreed it would stop up some leaks, and that you really need one. If you will tell me what the *real* reason is that you don't buy one, I won't bother you any more—today."

"Sure, I'll tell you," answered the baker simply, smiling good-naturedly; "I don't want one."

"But why don't you want one?" inquired Mr. Chalmers, nailing him right down to the exact reason.

"Well, I'll tell you," said the baker, "since you put it that way. The fact is, I've got an old baker working for me that I've had in my employ for over twenty years. He opens the bakery each morning before I'm up and waits on most of my customers. I'm afraid if I got one of those things in my shop he would quit."

Mr. Chalmers was surprised. A reason like that had never occurred to him.

"I'll tell you what you do," he said finally "You go and get your baker and we'll sell him."

To make a long story short, the assistant was brought in and convinced by Mr. Chalmers that his boss needed a cash register. Of course, the cash register was sold. It proves an interesting point in salesmanship: *You cannot sell people until you know why they will not buy.*

And this is just as true of photography as it is of anything else. Photographers are not selling as many pictures as they ought to, and they are not going to sell as many as they ought to, until it is thoroughly established just why people do not buy. It is a matter of salesmanship, of learning why the people do not buy, and then going after them hammer and tongs to overcome their prejudices. One thing we have not always considered: that the photographer not only competes with other photographers, but with other merchants, selling other lines of goods, as well. The clothier, the grocer, the candy man, the florist,—all these bid for your patrons' dollars, and some of them have the additional advantage of supplying the very necessities of life. The photographer has got to compete with all these merchants and dozens more, all of whom are clamoring for a portion of the public income. Who is going to get this money? For surely we all know from experience we cannot have everything that we see; some of these merchants are going to be disappointed. Shall it be the photographer?

Of course food, raiment and shelter are primary considerations. One might naturally expect we should desire these most. In fact, this is not always so. We sometimes spend for food grudgingly, haggling over one-half cent in the price of a dozen eggs, so we can save to buy a two hundred dollar phonograph. We prefer the phonograph, but we must live; so we pay as little as possible for necessities, that we may have more luxuries. Is not that human nature? We must have food, shelter and clothing, so that forms a necessary and very large expenditure. In these things, competition is keen, because the volume of business is large, but the prices are therefore close, and the profits per sale comparatively small. But photography does not come under this head. It is in a sense a luxury. Before you can sell it, you must know why people do not buy, and the chief reason is the competition of other luxuries. You have got to make them want photographs more than they want other things.

Just how far does price enter into this? It is apparent, if we did not have to spend for other things, the photographer need merely say: "Come into my studio and have some pictures taken," and every one would come. But price does enter. If we have photographs, it means going without something else. This competition sharpens our wits and makes us weigh carefully merchandise that is offered for our consideration. We have got to choose, and here desire enters. A question of preference arises. This causes the merchant to exert himself to attract our attention. He tries to make his merchandise so desirable that we grow to want it and want it badly; and here interest crystallizes into desire of the intense sort and we are driven to purchase. We buy his goods in competition with something else or some other maker's goods of the same kind.

So if the photographer is going to get a larger share of business, he has got to arouse interest in his pictures, and make his photographs more desirable than other merchandise. To do this, he has got to learn how the public regard photography. He has got to learn what people find fault with as a rule—when they find fault. He has got to find new ways of attracting attention. He has got to find out how much they spend for photographs and go at it systematically to increase that expenditure. He has got to exploit photography in all its phases, keeping it constantly before the people, an ever-present concern that they cannot

MISS D. MURRAY McKAY—ARTIST "TOOTSY"

forget, and will ultimately desire. To sum it all up, he has got to go back to the basic reason *why people do not buy photographs*, and by investigation and experiment supply the missing answer. Just by way of illustration, we shall go into a few of these reasons, because only by knowing the actual conditions can you lay a foundation upon which to develop a larger photographic market.

A recent report of the Department of Commerce and Labor shows that the annual production of photographic goods in the United States reaches the sum

MISS D.

MASTER H.

of thirty million dollars. The largest part of this expenditure undoubtedly goes into the manufacture of cameras, films and paper used by the amateur. There are no reliable figures showing what proportion of this great sum represents goods used by the professional. The advertising manager of one of our largest photographic manufacturers has estimated it at five million dollars. Accepting that figure as conservative, the dollars and cents output of our studios, at a very liberal estimate, is doubtless five times that amount, or between twenty-five and thirty million dollars. Even at that figure, the annual expenditure for photographs per capita is only about one-third of one dollar. Surely this is not a drain on the public resources, nor would twice that sum be, or even three times that amount, allowing for the possible inaccuracy of these figures. The annual expenditure for photographs is even less than the price of one dozen eggs at current prices, so surely people *can afford* to spend more for photographs.

We are still asking, "What is the reason people do not have their pictures taken?" Have you ever heard this remark in your studio: "Oh, I just hate to have my picture taken; it is just like having a tooth pulled"? That remark has undoubtedly been made in nearly every studio in the country. Still people do have their teeth pulled and keep the dentists quite busy, despite the distastefulness of that operation. But photography is different. It is not classed among necessities, and people want to take it as a luxury. There is room for education away from this idea. Modern photography is not a bugbear in the hands of expert photographers. Modern improvements have made it possible to take photos unknown to the sitter and produce better results. Home portraiture offers a relief from operating-room horrors that are tragic memories to older people. These things need advertisement, for they are some of the reasons people "just hate to have their pictures taken," and put it off, year in and year out.

Have you ever heard this phrase: "I'd have my picture taken, but I take such an awful picture!" There is vanity for you! But vanity, you know, is one of the reasons people have their pictures taken, so you cannot afford to sneer at that apparently foolish remark. It is really keeping lots of people away from your studio. Photographers are making better pictures today than ever before, and people should know it. It pays to flatter folks a little; we all like it. Not too much, of course, but enough to make us proud of ourselves. It doesn't hurt anybody and it does create good-will for the photographer—it gets business.

Then there is this reason they do not buy, you have often heard: "I'm too old to have my picture taken; I'll leave that to the young folks." These people are not too old, but too conservative. Their objection is more specious than real, and it only takes a gentle push to get them into your studio. Advertising, well directed, will do it.

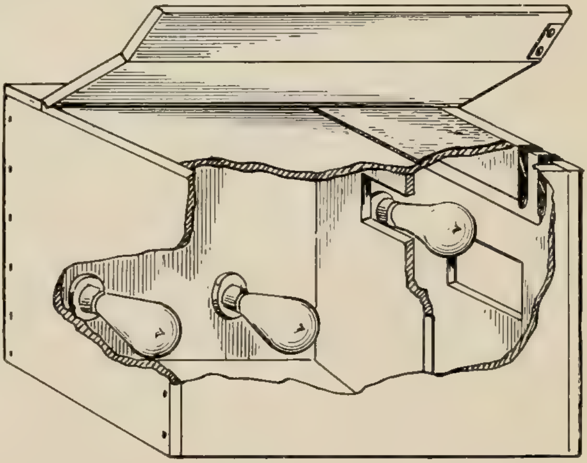
Men object to having a picture made universally; that is, unless they are wearing a Knights of Pythias uniform, or are going on the front page of the paper. Getting their picture taken they regard as a frivolous business, and you know no man likes to be thought frivolous. They will accept your invitation for a sitting for your group of "The Distinguished Citizens of Our City," and lose a half day at the office to make it; but as a voluntary performance they are shy of it. A little tact overcomes this *reason they don't buy.*

And so you may carry the investigation further into other directions, into the matter of quality of goods and service, competition with other photographers, and with city photographers if you are in a small town. There is an answer to all these problems, but until you have investigated them and know where the public stands toward photography, you can hardly hope to develop the possibilities of the business to the utmost.

Combined Developing and Printing Box

By Paul M. Elder

How few of us there are who have not met with occasions in our experience when it would have been most desirable to have been able to turn out a batch of five hundred post card prints in about thirty minutes, and how many of us there are who have gotten tired of the old-style printing frame, with its movable back always ready to slide just when we feel that we have the mask and card properly placed! With the printing box which I shall try to describe, this annoyance is avoided and the work made more rapid. At any rate, I have, using it, frequently printed five hundred post cards in thirty minutes and had no trouble or delay in properly placing the mask and cards on the negative being used.



The cost of the box was not very great, as it was made from boards selected from a larger box secured from the groceryman. And, as the construction was done by myself, expense was confined to the purchase of lamps, sockets, wire, hinges, and a few trifles of sheet brass and nails. The box is divided into two compartments, the smaller one containing the fifteen-watt working lamp and the other the two forty-watt printing lamps. These last can be increased in number, if needed, this depending upon the size box made.

In the end of the box forming the outer side of the small compartment, there is an opening about 3x3, over which is pasted some orange or ruby paper; in my case, the orange glass taken from an old dark-room lamp was employed. This allows a safe light for developing to fall upon the table at that end of the box. In the partition which separates this compartment from the larger one is another opening of the same size, but a little higher up, covered with the same material. This allows a safe light to pass up through the negatives so that one can see how and where to properly adjust the mask card over the negative. This arrangement permits the using of the same lamp for two purposes, adjusting the mask and card and developing the print. These two holes are shown in the accompanying sketch. A piece of cardboard is placed over the top of this smaller compartment so that the light from the lamp within can neither shine in the eyes nor send stray rays around where they might fog any paper left uncovered.

The compartment in which the two printing lamps are located is covered with glass, which should be rather heavy and clear. This glass is placed just a little below the top of the box so that the pressure back, which is made like the back of the ordinary printing frame, can close down evenly over the paper. If possible, the back hinges should be sprung a little, to add to this clearance and give a little spring to the back, the under surface of which should be covered with felt, the same as that of the ordinary printing-frame back.

The wires (or lamp cord) are brought from a plug in a convenient lamp socket through a small hole in the back of the smaller compartment and led directly to the fifteen-watt lamp, which burns all the time the box is in use. From this lamp one of the wires is led directly to the other two lamps, while the other is led to one point of the switch, shown at the right-hand end near the front. From the other point of the switch the remaining wire is led back to the other two lamps. The switch is made by cutting two pieces of sheet brass about ½x1¼, and bending them L shaped. These are placed about one-fourth inch apart, with the short bends resting on the edge of the box, and the long bends extend down into the box, flat against the inner side. They are so located as to come under the edge of the last half of the pressure back when closed. At this point on the back is fastened a piece of the sheet brass, long enough to touch both faces of the L-shaped pieces and make a connection. Make a hole in the ends that extend downward into the box and fasten with a screw, twisting the end of the wires under their respective screw heads before fully screwing them home.

In operating, the negative is placed on the glass, the mask and card are adjusted and held with one hand while the first half of the back is closed down with the other. This holds the card and mask in position while the last half is closed down and the circuit closed, lighting the two forty-watt lamps. The exposure made, the circuit is broken by raising the front half of the back carrying the contact piece.

I have used one of these boxes for several years and find myself at a decided disadvantage when I have to do any printing without it. Some time ago I made one of these boxes for a friend who does considerable amateur finishing, and he not only uses it for his printing and developing of gaslight papers, but for a dark-room light as well, by putting an additional ruby cloth over the outside end opening.

Let us enter into our heritage of beauty, given everywhere in seas and forests, gray moorlands and purple mountains, daisy-dotted meadows and brooks flowing through leafy nooks, rosy dawns and starlit nights—just to enjoy it is the main requisite.—Edward Howard Griggs in "The Philosophy of Art."

The Real Founders of Post-Impressionism

By Carlos Sastre

Reprinted from and by courtesy of *The Trimmed Lamp*.
See editorial comment page 343.

When I landed in New York, some little time ago, I hurried, as soon as possible, to the exhibition of "International Art," which had been devised and carried through by the Association of American Painters and Sculptors. I found matters just as I had expected, for the same thing was true in the last Modernist exhibition in Paris, as well as in the famous one held in Munich five years ago. It is astonishing, when one considers how amazing has been the progress of art in the last couple of decades, that the real originator of the secession from the old cut-and-dried schools, as well as his immediate followers, should be so absolutely neglected, their very names being unknown, except to the fortunate few who have been with the movement from its inception—and particularly those who have known the personality of that creative genius, Giacomo di Trufferia, and his two followers, Pablo Vacio and Emil von Tollstadt.

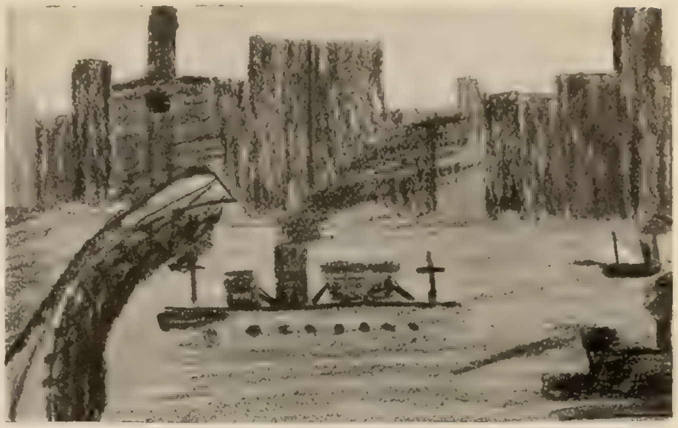
Of course, there is a reason for this neglect—for neglect it is. Vacio and von Tollstadt were burned to death in that disastrous fire which devastated nearly the whole north border of the Arno in Florence, some thirty years ago. But di Trufferia still lives, a hale old man, nearly ninety, awaiting his end, calmly and almost alone, in Florence, where he has made his home for more than forty years.

Perhaps you may remember seeing, near where the Via Sviare reaches the Piazza Stolto, an ancient four-story dwelling equipped with a red-tiled mansard roof, from which project two broad, high windows. In this old house and under that mansard roof, where the heat in summer is terrific, but from which he can see his beloved Arno winding away among the hills, lives Giacomo di Trufferia, unknown, I dare say, to the neighbors on either side. Certainly is he unknown in the great art centers of the world, where, nevertheless, the mark of his creative hand is shown in a thousand ways, in the splendid work of Matisse, in the crude strength of the cubist Picabia, in the severe simplicity of the idealist Brancusi, and the whole host of their followers and imitators. Yet in no public gallery in France, Italy or Germany, not to speak of the United States, can be found a single work of di Trufferia, or even of Pablo Vacio or of von Tollstadt.

As I said, there is, of course, a reason for this. When di Trufferia and, later, his two followers, began to exhibit their work, the ridicule was instant and almost overwhelming, and not only so, but the three, at different times, had very unpleasant conflicts with the civil authorities. Di Trufferia, then a man of some means, was declared insane by two nephews, his heirs, and the court records of Florence of August, 1873, give no few details of the contest in which the unfortunate artist was so repressed to prove his sanity. About a dozen of his best works were brought into court, including his Passing Storm, and it was only through the efforts of a few loyal and discerning friends that his freedom was gained, it being the opinion of the court that only the man's artistic sense was awry and not his mentality. All this misfortune di Trufferia accepted calmly and with great serenity, declaring that the ridicule heaped upon him, and the savage attacks, were sufficient proofs that his work was true, even revolutionary, for every revolutionary truth since the world began has been received with laughter and insult.

Vacio and von Tollstadt had similar experiences; indeed, the latter actually spent three weeks in an English jail for exhibiting paintings contrary to the absurd laws of British prudishness.

It was in 1877 that the sun began to shine for the three artists. The late Count di Manicaretto and the famous Madam Nigaud, both well known as discerning students of modern art, at this time became acquainted with the work of di Trufferia, and, the next year, with that of his two pupils. They at once realized the significance of the movement represented by these three independent craftsmen. Until their death in the fire, five years later, von Tollstadt and Vacio lived in peace and comfort, supported generously by Madam Nigaud, who used her immense wealth in beginning the first Modernist collection that ever amounted to anything. She purchased all the work of her two friends during this time, and at their death was inconsolable. Those of us who have had the pleasure and privilege of knowing this remarkable woman are aware of her extreme sensitiveness. She could not bear to be reminded so constantly of the frightful end of the two unfortunate artists, and finally, in 1868, she disposed of all of their paintings that she possessed to the Count di Manicaretto, who, in the meantime, had been the sole admirer of Giacomo di Trufferia, and had done for the latter what Madam Nigaud had done for the followers. Thus the Count came into the possession of a collection, now priceless, of the beginnings of a movement now made famous by Matisse, Van Gogh, Brancusi, and Picabia. It is now many years since di Manicaretto used to exhibit the work of his protege. It is little over two decades since the artists now famous used to gather before some new work of di Trufferia, or study the choice examples possessed by the Count of the creative work of von Tollstadt and of Vacio. But in twenty years much is forgotten, and it is twenty years since the last exhibition of the work of these three neglected giants, for the Count spent eighteen years closely confined in his palazzo, slowly dying of an unfortunate mental malady, and finally died not many months ago. His heirs, who now are in possession, had long been furious with the Count, because of the great sums he spent in gathering his now priceless collection, so that when he became mad, they locked his galleries, and until a very short time ago, the pictures contained therein were lost to the world. Now, to be sure, the present Count Benedetto di Manicaretto has become aware of the immense value of his gallery, and has refused point blank to have any of the works exhibited thus far, the reason being that a certain famous



"CITY ACROSS THE RIVER" By DE TRUFFERIA

American collector has been negotiating for some time for the whole collection.

It was the great good fortune, however, of the writer to be admitted, three years ago, into this now carefully guarded private gallery, there to see not only the few masterpieces that were displayed in private exhibitions so many years ago, but many, many others, now of great value, not only as works of art, but in relation to the different manifestations of the new movements in art. And there, in the works of the three men, were to be seen the influences which make characteristic the paintings of the men now termed "Modernists," "Cubists," "Post-impressionists," "Futurists," and what not. And, particularly in the work of di Trufferia, we see the inspiration of Picabia; in the work of von Tollstadt, we see the light that guided Brancusi; and, finally, in the paintings of Vacio, we behold Matisse—more crude perhaps; less developed, less strong, less true; but it is the same inspiration, line for line and color for color! Why this has not been acknowledged long ago is a matter of wonder. Men, and particularly artists, are difficult to understand. But even now it is not too late, particularly for the white-haired old man living under the red-tiled mansard roof, near the Piazza Stolto, who, in despair, vowed never to take up his palette again, when he was told of the malady of his friend and patron, the late Count di Manicaretto.

Ultimately, and perhaps before much longer, the works of our three forgotten artists will be given the publicity that they deserve, only it will be a great misfortune if some are not allowed to go out of Italy, and a still greater misfortune if they are all kept in one collection, for the great galleries and academies of Europe and America should each possess at least one example of this nascent work, instead of having them all garnered into one place—perhaps the New York Museum.

By no means could I persuade the present owner to either sell one or two of his

"ROOFS" By DE TRUFFERIA

treasures or even give a private exhibition of any kind. Yet, because of some slight service which I have been able to give him, he has been good enough to let me take photographs of a few of the paintings and to read and to copy down some of the observations written by di Trufferia more than thirty years ago, in a little journal kept in those pleasant days.

Naturally, my first prize was di Trufferia's "Passing Storm," of which my poor photograph can give but a poor conception. On this great canvas we see the inspiration which has illumined the cubists particularly, an astonishing idea, for a full meaning of which we must turn to di Trufferia's "Journal."

"Art," says he, "has fallen on evil days. The whole theory is absolutely false (igannevole). We confuse sensation and idea with the cause of the sensation and idea.

"For instance, when we think of a tree, or on canvas endeavor to portray the idea of a tree, we should eliminate everything, as far as is possible, connected with the unessential sensations we feel when we behold a tree. That is, we should be able to think of a tree, and to paint the idea of a tree, without bringing in the color green, which happens to be the usual color of foliage. To paint a tree in green is to detract the observer's mind from the idea of the tree itself, for then the greenness attracts his attention, which by means of thought-sequence is quickly carried away further and further from the idea which the artist would express.

"In fact, in avoiding this error, it is only logical that the artist, using our example of a tree, should do everything in his power to avoid giving the sensation of greenness, which is best accomplished by painting the foliage in the opposite color; that is, of course, red. For the same reason, the sky should be painted some tint of yellow, instead of blue, and the sun should be violet or blue-violet, instead of yellow, and so on.

"Not only is this true of colors, but to some extent, even of line. In portraiture, the photographic accuracy of line that is so common is far from being real art, for art consists in portraying ideas, and ideas are simple and not filled with a thousand complexities each. A portrait, then, should give one the idea expressed by the sitter's face, at the same time departing as far from the actual alignment of the features as can be." What can be more like the ideas now expressed by Brancusi, for instance, not to speak of Picabia! And yet which of them ever mentions the poor, white-haired di Trufferia, lonely, under his red-tiled mansard!

"Furthermore," he continues, "in nature, and particularly when humans are concerned, it is an egregious mistake to portray your subjects as though they had all been smitten with paralysis. Do not, therefore, paint a profile alone; but, with your profile, for instance, give a hint of your sitter's face in full, and a suggestion at three-quarters, and, perhaps, if your sitter is a humorous personality, give a faint touch of the portrait upside down, keeping all the suggestive touches faint, so that they are suggestions only, not to be mistaken for, or to confuse, the original profile." And here again we have the basic idea behind not only so much of Picabia's work, but of several others, who endeavor to show that the humans in their picture are not still statues, but figures in motion, making many rapid and varied impressions.

"MADAME NIGAUD" By VACIO

So now we can understand di Trufferia's wonderful "Passing Storm," with its vast, wide rainbow and solid cloud. The rainbow, as is fitting, because of the diaphanous aspect of the natural bow, is portrayed as a narrow but solid arch, in gray and black, while behind it flames a sky of pure lemon color, all reflected in a marvelous sea. An ignorant observer would expect to find a dark rainbow reflected darkly in the water, but this could not be logical, because that would be following too closely our common sensations. Therefore, the gray and black bow is given a white reflection, and the effect is superb beyond words.

Space does not permit an intimate description even of the few works I was enabled to photograph, but among these I would mention di Trufferia's "City Across the River," where massive blocks of buildings confront one's eye; his "Roofs," an astonishing portrayal of his theories; his "Three Laborers' Houses" (Tenimenti), and, finally, his portrait of von Tollstadt, in crayon, which gives an astonishing impression of that young genius' fine character, his dreaminess and intensity.

Besides some half dozen of di Trufferia's masterpieces, I managed to photograph a few of von Tollstadt's and Vacio's. In von Tollstadt's splendid "Sunset and Bridge" (Sonnenuntergang und Brücke), we see what seems to be the modern work of Van Gogh, and yet it was painted long before Van Gogh broke away from the bonds of the pseudo-art with which we have been afflicted. We see Van Gogh again in von Tollstadt's "Melancholia," and yet the Melancholia has not been seen for two-score years.

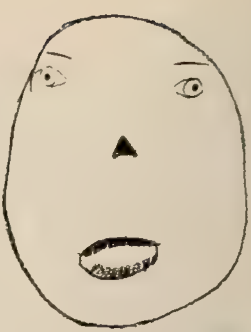
Of Vacio, I have his crayon portrait of his stout, affable, kindly patroness, Madam Nigaud, in which he has carried out his master's theory perfectly, for he has avoided wonderfully to give the exact alignment of her features, and yet the idea expressed is that of Madam Nigaud, and could never be mistaken for any other. Madam Nigaud today, like di Trufferia himself, is aged and white-haired, and this portrait has a pathetic interest, bringing one back, as it does, to the day when, vigorous, and as amiable as now, she made life possible and pleasant for two geniuses, who, with their coming fame, will make her famous, as Isabella of Spain is famous more as a patroness than as a queen.

I have also a fair copy of Vacio's terrible "Idiot," a very horrible conception, rigidly simple, and yet expressing the idea of the frightful, goggle-eyed idiot, so often cruelly displayed in museums and circuses. Very different is his "Leaning Cottage," which, of course, while being simplicity itself, avoids portraying any particular, narrow type of cottage; and the trees about it, one an evergreen, really express the idea of "tree" much more than they

"MELANCHOLIA"
By VON TOLLSTADT

depict any particular tree, thus following out the dictum of his master, the law followed so scrupulously not only by Matisse, but by Van Gogh, to some extent, and very certainly by Picabia, Lehmbruck, Brancusi and, in fact, nearly all of those whom we variously term "Cubists," "Futurists," "Post-Impressionists," "Modernists," and the like.

I have not given this to the public with any thought of lessening the fame of any of the present-day generation, nor do I wish to have this considered as an attack upon the generosity of those who owe their inspiration to a man long neglected. This is written merely to express the feeling I have had that a great injustice has been done which should be righted at this time.

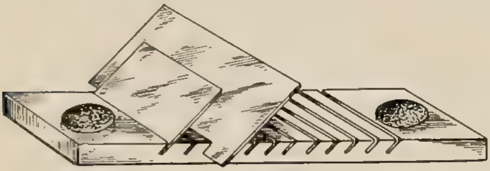


"IDIOT" By VACIO

A Plate-Holding Rack

By A. E. Davies

Workers who develop ten or twelve plates at a time, washing them in a large sink or print washer, will find the device described below a decided convenience. The illustration herewith makes a description hardly necessary, but I might say that the particular one I am using is made of a piece of one-inch board, four inches wide and twenty-five long, dressed on all four sides perfectly smooth. This can, of course, be made any length desired to fit the tank used, accommodating a greater or less number of plates. Five inches is allowed at each end, and in the space between are made twelve saw cuts, one and one-fourth inches apart. These cuts are made wide enough to accommodate the thickness of the plates; they are made at an angle of forty-five degrees, and extend about half way through the board. In the five-inch space at each end is bored a large hole, almost through the wood, the sides being worked out with a gouge so that the bottom of the holes are larger than the top. This is done so that they will retain the lead that is melted and poured in to fill them flush; these serve as weights to keep the rack from floating to the top of the water. Nails or iron should be avoided, as they rust and cause spots on the plate. The edges or lips of the saw cuts should be rounded a little with a file to make them smooth. The greater the angle of the cuts the less depth of water will be needed. Lastly, give the rack a good coat of Probus paint.



This rack will take plates of different sizes, and, if one has a large, circular print washing tank that allows the water to escape at both bottom and top, the hypo can be eliminated from the plates in a very short time. The plates are, of course, placed face upward in the rack to prevent damage to the film.

PARAGRAPHS PHOTOGRAPHIC

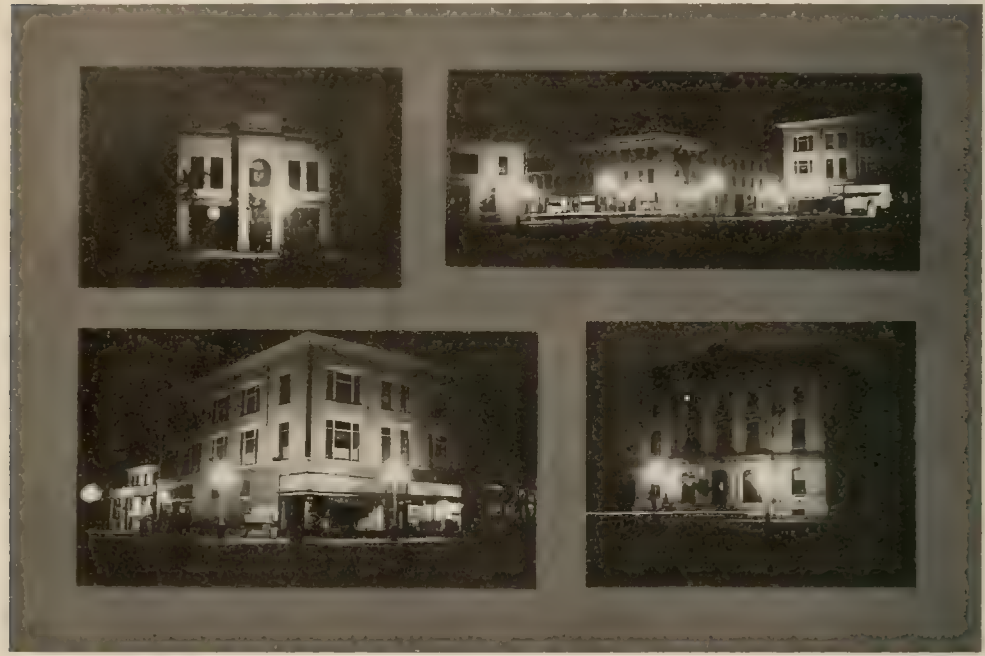
Kindly Contributed by Our Readers

MEASURING SECONDS: A good "expometer" for counting seconds in enlarging can be made by taking an iron burr, or something of that nature, and attaching it to one end of thirty-nine inches of string, forming a pendulum. If the ceiling is not too high, drive a tack in it and suspend the burr where it will be convenient to swing it and count the oscillations. When working in the field, the string can be tied or hooked to the tripod screw so that it will swing between the legs where one can keep moving with the toe. Thirty-nine inches makes a pendulum which will measure seconds close enough for all practical purposes.—C. R. Lowe, Nebraska.

WASHING TRAYS: After using half a pint of a water-and-acid-proof paint on a 10x14 tray without getting it to hold water, I bought a bit of beeswax, melted it in an old tin plate and painted it over the inside of the tray made as warm as the paint already thereon would allow. A brush is easily made by wrapping a piece of cloth about the end of a stick, tying it on and splitting the end of the roll. If any part of the waxed surface is not smooth enough, take a hot flat-iron and touch the rough parts lightly. My next tray will have only wax on it. I thought at the time that probably I had discovered something new, but an old Tennant & Ward formula book has since fallen into my hands and I find it all there, even to the flat-iron process, but with this suggestion: the addition of one-fourth part of resin will give a harder coating. Incidentally, this wax and resin mixture is what implement manufacturers use to coat the polished surfaces of farm machinery so that they will not rust.—C. R. Lowe, Nebraska.

AVOIDING DUPLICATING: Do you know the number of prints you have made from any certain negative, and do you know anything as to whom they have been sent? Do you trust to memory or do you employ an elaborate system of bookkeeping? I have tried several plans and have found the following one the most satisfactory. It is handy, easily kept, records the number of prints sent in exchange or given away, and at the same time affords a good filing place for cards not yet sent out. Buy or make envelopes large enough to hold the prints made; mine being post cards, I make my own out of old letters as they are usually good, strong bond paper having writing only on one side, making these envelopes or pockets without a flap. Next make a box to hold fifty or one hundred of the envelopes, making the front, bottom and back of one-half-inch lumber and the sides of cardboard if desired, my own being so made from portions of a Sunshine Biscuit carton. At the top of the envelope front I write title of cards contained therein, and when sending a card, I note below the name of the recipient and the date. It is then quite easy to look down the list and thus avoid duplicating.—C. R. Lowe, I. P. A. 3676.

SOME NIGHT PICTURES: Reading Mr. Searles' article on Night Photography, in the May issue, and, like him, having little time for photography during the day, I tried his plan and took a few night views, four of which are sent herewith. They were taken between 11:00 and 11:30 p. m. of a cloudy night, using N. C. Speed Film with a Zeiss anastigmat lens at full opening, f-6.3, with the exception of the second or upper right-hand corner one, for which the lens was stopped down to f-8 and five minutes' exposure given. The lower left-hand picture had four, while the remaining two were given six minutes' exposure. The only light used was that from the regular street lamps, consisting of groups of five each, several of which are shown. I have made quite a number of these night pictures and find it the most interesting branch of photography for the amateur that I have ever tried. Besides, the resultant pictures are less common and prove more interesting to one's friends.—H. G. L., North Dakota.



METOL POISONING: In the last November issue, I wrote under this head, but the editor edited out the remedy and published the preventative. My fellow amateur, Alva May, of California, noted it in the January issue and gave a remedy to be applied several times a day for three days. My remedy is permanganate of potash rubbed into the skin, followed by cleaning up with oxalic acid, as for removing pyro stains, this last being the primary purpose of the application which led to the discovery of its virtue as a cure. This remedy is better than Mr. May's in that two applications cured up an obstinate case of the poison on the hands of my friend Criley, who accidentally discovered the remedy. —C. R. Lowe, Nebraska.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

Vol. XXI San Francisco, California, July, 1914 No. 7

"The Real Founders of Post-Impressionism"

This article, appearing on another page, reprinted from *The Trimmed Lamp* for May, was originally written as a means of gratifying its author's desire to obtain amusement at the expense of his serious-minded friends and admirers of the "new art." In manuscript form, accompanied by the original photographs of the drawings, it was particularly effective with many exponents of futurism who professed to see marvelous beauty in the examples from "von Tollsdadt," "Vacio," and the rest. Its success prompted the editor of *The Trimmed Lamp* to publish it without taking his readers into his confidence in order to test the soundness of the futurists' position by offering a still wider circle an opportunity of discrediting the author, something which has not been done. In his June issue, the editor will, after commenting upon the success of the hoax, as indicated by commendations thereon, explain as follows:

"The Real Founders of Post-Impressionism" was written by Carlos Sastre, who in private life is Mr. Charles K. Taylor, an educational psychologist of Philadelphia. "The Real Founders"—von Tollsdadt, Vacio, Madame Nigaud and the rest—have no private life; for they never existed outside of their creator's jovial imagination. Their "work," however, has a private life. "Roofs," by "di Trufferia," was produced in ten minutes by a girl of nine years, given subject and no copy. In the words of her teacher, "it is a good example of an untrained child's scribble." "The City Across the River," by the same "master," was made by a boy of ten who had "never studied drawing nor had any art training." "Vacio," the "genius who painted the suggestive portrait of 'Madame Nigaud,'" is in private life a feeble-minded lad of eleven. And the "terrific genius" of "von Tollstadt," whose hand made the "horrible but wonderful 'Melancholia,'" dwells in the body of a ten-year-old cretin (technical term for congenital idiot).

These facts were laid in their entirety before an exponent of the "new art" with the not unreasonable expectation of prompt surrender on his part. If he felt the slightest embarrassment, he revealed none. "Of course," he cried enthusiastically. "It proves our point! These pictures were made by little children. Well, we aim to paint as little children. You have proved beyond all doubt that we do."

Editorial collapse!

The Next Convention at Indianapolis

Of course our Pacific Coast readers will be sorry to learn that San Francisco did not secure the Convention for 1915, news concerning this particular point being about all that they seemed to demand for a few days following the

Atlanta gathering. The whole truth of the matter is that Indianapolis wanted the Convention quite badly, wanted it to the extent of a handsome cash bonus in addition to free convention hall and other inducements. From a strictly business point of view, that enterprising city paid entirely too much for the honor of a visit from five hundred photographers, assuming that the attendance next year might be twenty-five per cent greater by reason of the more central location. But, with San Francisco already booked as the Convention City of 1915 by associations, societies and the like to an extent that means about three such being in constant session throughout the year, other cities are in somewhat hard straits to secure even a weak showing from the few possibilities remaining. The result is that there has been but little opportunity for their Convention Leagues and other bodies to expend their usual accumulation of funds, and large cash offers become quite easy for them to make. One of our contemporaries, in advising that the claims of San Francisco be ignored, cited the fact that the Shriners had selected Seattle, intimating that they did so to avoid the inconvenience of an attending Exposition. The real reason was the same as that which prevailed in behalf of Indianapolis, a large cash bonus, rumor having it that a certified check of three hundred thousand dollars was used as its strong argument. This was certainly a much stronger one than San Francisco could offer after its own Convention League had financed efforts that had already secured many hundreds of like annual gatherings. Indianapolis is to be congratulated upon her generosity and enterprise; as a city she is most centrally located, she has most excellent hotels and is otherwise well equipped to handle conventions. Let us all get together and make the next or 1915 Convention of the Photographers' Association of America the greatest gathering that has ever been held in the history of that body. The 1913 gathering at Kansas City gave many new men a taste of Convention benefits; the one at Atlanta did the same for not a few of the South. Photographers in the East have had quite frequent opportunities to attend without much travel. Indianapolis is at no great distance from any of these sections. A rousing convention should result, particularly with such able and expereinced men at the helm as the newly elected President, Mr. Towles, and his able Vice, Mr. Dozier. Secretary Hoffman, and no better man has ever held the office, will continue. Let us make the 1915 Indianapolis Convention a record breaker in every way.

Some Excellent Color Plate Work

H. A. Erickson, the Coronado photographer, whose color-plate work has attracted so much favorable comment, was in the city for a few days during the early part of the month. As he had quite a number of his slides with him, such of the members of the California Camera Club as could be gotten together during the day were delighted with an exhibition on the evening of July tenth. Mr. Erickson's color-plate work was voted the best the members had ever seen, some of the sunset effects at Coronado being wonderful in their rendering of the brilliant yet harmonious coloring so characteristic of the sunsets of that locality. Mr. Erickson is leaving for Yosemite Valley, where he expects to add greatly to his fine collection.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Cleaning a Daguerreotype

This is work that really should be entrusted to some one with experience, but if our inquirer wishes to try his own hand, he can proceed in the following way: Remove the picture from the case and blow away any dust as a brush might scratch the delicate surface. Then flow with pure alcohol for a minute or two, followed by a rinse under the tap until the water flows off evenly from the entire surface. It is best for one to supply himself with a pair of jeweler's pliers, by which the plate can be held by one corner. Next make up a strong solution of potassium cyanide and add a little to some water to be flowed over the plate to remove the tarnish or veiling. A formula is out of the question, as the chemical varies considerably in strength. Simply add a little of the strong solution to some water and if it does not achieve the desired result, add a little more, and so on. Finally wash well under the tap; and, still holding the plate with the pliers, give a rinse in distilled water, making sure that it is drained continuously from one corner to avoid markings. As it becomes drained, bring the flame of an alcohol lamp under the corner held highest by the pliers; and, as drying progresses, gradually raise the opposite corner or corner from which the plate was drained, so that the drying progresses steadily and uniformly. The heat should be moderate to prevent damage to the image. One will do well to experiment on one or two plates that are of no value before attempting to clear up one that is treasured by the owner as so many are. One will also be wise to make sure that the picture being treated is really a daguerreotype and not one of the glass collodion positives made at about the same period.

Transferring Pictures to Wood, Glass, Etc.

Another correspondent wants information concerning a plan advocated some time ago for the transferring of printing-out prints by ironing them between blotters. Looking this up, I find that a writer in *Photography and Focus,* of London, advised that the print be fixed and washed, drained for a moment, then placed face down on a dry, white blotter on a flat surface, covered with another blotter, and a warm iron be passed over the entire surface of the latter. The theory is that the warmth of the iron melts the gelatine next the paper on which the emulsion is coated, and if the upper blotter be raised, along with this paper of the print, the latter will come away, leaving the hardened gelatine film of the print well hardened as the gelatine sets. It is said to be so hard that the finger nail will not damage it. The pressure of the iron should be uniform and firm and all parts should be passed over with two rubs of the iron, as parts of the film not reached by the heat will adhere and tear when the stripping is attempted. One must also work fairly quickly so as to complete the stripping before the warmed gelatine sets. Another caution is not to apply too much heat or the picture will be made granular by reason of too complete melting of the film.

Making Paste Rightly

A Chicago correspondent wishes to know how he can make a paste that will have more of the quality of the library pastes on the market than does his present concoction of flour and water. What he should do is to make his paste with dextrine, taking care to secure the best white quality of the material. Take five quarts of water and bring it to a temperature of one hundred and sixty degrees Fahrenheit and then stir in six pounds of dextrine, maintaining the same temperature until the dextrine is fully dissolved. A little oil of wintergreen or oil of cloves can be added as a preservative. It is important to maintain the temperature advised for the time required to dissolve the dextrine, after which the compound is poured into cans or bottles to congeal. This is the formula as sent us by one of the largest commercial workers in the country, and we have no doubt but what it will produce a paste of a very fine quality, as a friendly chemist advises that dextrine undergoes a change at a certain temperature that is not exactly the same as that ordinarily produced by the irregular temperature generally used in bringing to the boiling point and cooking of paste.

A Substitute for Sulphide in Toning

A correspondent asks concerning a formula that came to his notice some two years ago, one based on pyrocatechin with Schlippe's salt as an addition, to be used in the place of the sulphide in producing brown-toned bromide prints. The formula in question originated in *Photographische Korrespondenz,* from which it was copied quite extensively. It reads as follows:

A:	Pyrocatechin	90 grains
	Sodium sulphite crystals	1 ounce
	Water	10 ounces
B:	Sodium carbonate crystals	2 ounces
	Water	10 ounces

The prints are bleached as usual in the mixture of potassium ferricyanide and bromide, and then, after a brief wash, are redeveloped in two parts of A and one part of B; thirty-five to seventy minims of a ten per cent solution of Schlippe's salt being added to every four ounces of the mixture. The amount of sodium sulphantimoniate, or Schlippe's salt, as it is called, regulates the tone, the variation being from sepia to a dark brown.

Single Solution Intensifier

An Illinois correspondent wishes a formula for a single-solution intensifier. A worker in this city claims the following gives most excellent results, and we would suggest a trial of it:

Mercuric chloride	8 grains
Sodium chloride	15 grains
Platinic chloride	23 grains
Water, distilled	16 ounces

All hypo must be removed from the negative by washing and the plate, if dry, soaked in water before being immersed in the intensifier, where it is simply allowed to remain until the desired strength is secured, a short final washing completing the operation.

Potassium Metabisulphite

This, I would advise my Oregon correspondent, is used in developers in place of the usual sodium sulphite, being preferred by many because it oxidizes less rapidly than the latter. Being an acid salt, it necessitates a slight increase in the amount of alkali used in the developer in which it is substituted for the sulphite. For each grain of the salt used, the following additional amounts of the various alkalis should be added: Caustic potash, .5 grain; caustic soda, .36 grain; sodium carbonate, crystals, .96 grain; potassium carbonate, .62 grain. When the salt is not obtainable, one can substitute for each grain of the metabisulphite, two and one-half grains of sodium sulphite and one-half minim of sulphuric acid. Of course, these last will count as one grain of the metabisulphite and take the additional amounts of alkali as suggested in the line above. It might also be noted that a lesser quantity is required of the metabisulphite than of the sulphite, about one-fourth the amount being generally recommended.

Photographic Books

Our Ohio correspondent is advised that "Science and Practice of Photography," by Chapman Jones, is about the best general instruction book on the principles and practice of photography that can be obtained originating in England. "Practical Collotype," by A. W. Fithian, is a standard work on that subject. Both are published by Iliffe & Company, London, and can be ordered through any book store in this country.

In An Old Book

Between the pages of a book,
  I found this print today—
A snap-shot taken years ago,
  Haphazard laid away.
Not worth a mount or frame it seemed—
  Faint, overspread with haze,
One of the failures that record
  My photographic days.
Today the dim, imperfect thing
  Seems wondrous clear to see;
Such long-dead yesterdays unveil
  Their happy hours to me!
The corner of a little room,
  A rug, a desk, a chair,
A letter-rack, a telephone,
  Framed pictures here and there.
I cannot see the little print,
  My heart so weeps and sings;
I feel her presence there among
  Her dear, familiar things!

—P. A. Nedwill *in Munsey's Magazine.*

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

The Mercuric-Iodide One-Solution Intensifier

The single-solution mercuric-iodide intensifier is by no means new, but it is a most convenient and satisfactory method of adding a fair amount of extra intensity to a negative. It will not, of course, give the density obtained by the Wellington silver method, but will be found an extremely useful solution to have at hand. Once made, it can be kept either in a bottle or in an open jug, and does not appear to deteriorate. The formula is given below, and particular attention must be given to the method of mixing:

Perchloride of mercury	100 grains
Water	20 ounces
Iodide of potassium	See below

The mercury crystals are first crushed, placed in a little linen bag, and suspended just inside the bottle or jug. Hot water should be poured in until the bag is covered, solution taking place in about three hours. When dissolved, remove the bag and burn it. Now add the iodide of potassium piece by piece, shaking all the time until the solution changes from its opaque salmon color to a clear but slightly pinkish solution. The iodide must be added cautiously, and only just enough used to clear the opaque salmon color. An excess of iodide makes the solution yellow, and the latter does not work well then. The next step is to add a small crystal of hypo, about the size of a pea. This will make the intensifier a clear, colorless solution, ready for use. The mixture being a deadly poison, it is as well to label the vessel carefully. For professional use it is advisable to keep a working solution in an open jug, so that after use it can be readily poured back. The fact of being able to use this solution over and over again makes it particularly suitable for the busy man.

It can be used at full strength if desired, but in practice it is best to make up a working solution by adding an equal bulk of water, and occasionally adding a little of the full strength when, by constant use, the action is slowing. The film or plate can be immersed in the solution in either a wet or dry state. Intensification takes place quickly. Unlike the bleaching and blackening method, a small amount of hypo left in the film by insufficient washing has no bad effect upon the action of the intensifier, and in trade houses this single-solution method is much used for dealing with thin negatives of doubtful treatment in the washing stage. Very little practice will enable the worker to gauge the degree of intensity, and it should be borne in mind that the effect is more pronounced when the negative is dry. Different times of immersion produce the greater or less intensity required, but if the negative is left in the solution for more than five minutes, it becomes yellow. This color does not, however, materially affect the result beyond making printing rather slow, and may easily be discharged by passing the negative through a weak hypo bath and washing as usual. In all cases it is advisable, but not absolutely necessary, to pass the negative through a very dilute solution of hypo. The washing need not be very prolonged, as the writer has negatives intensified by this method some fifteen years ago still in good condition which had only a slight washing. After washing it is most imperative to wipe or blot off superfluous moisture, so as to prevent "tear drops" forming.

For local intensification, this solution is particularly suitable. Assuming the negative is of a landscape with a very thin foreground, or a portrait negative with the lower part weak (a common defect in electric light portraits), it should be well soaked in water, drained, and placed in a dish. The dish should now be tilted, the intensifier slowly poured onto the thin part of the negative, poured off again, and so on until the action is complete. If desired, the intensifier can be applied with cottonwool, taking care to keep it moving, especially on the part that merges into the dense portion. An alternative method, and one which is most useful for negatives, say, of an interior with a dense window, but thin in the other parts (or a portrait where the dress is already dense), is to intensify the whole negative, blot off superfluous moisture, and with a brush apply a solution of hypo to the dense portions. After this treatment, and in all cases of local intensification, it is necessary to blot off the solution and then wash in fast running water.

Another use for this solution is in strengthening lantern slides. Some years ago a trade firm who specialized in slide-making produced results on ordinary gelatino-bromide plates that closely resembled wet collodion slides. The plates were all kept a trifle thinner than usual, and then passed through the mercuric-iodide solution. This, in addition to adding the necessary "pluck," also changed the color to a warm black, and gave the slide the sparkle and vigor which are so characteristic of the wet collodion slide.—R. R. Rawkins in *British Journal of Photography.*

Notes on the Paget Color Process

The following remarks by J. W. Barker appear in *Photography and Focus,* and are worth careful attention by users of this plate. Incidentally, I may remark that I have been in communication with the Paget Company on the subject of the variations in color in their screen, and they answer that while they are seemingly very different, the result is satisfactory when registration is correct. To a certain extent, I have found this true, but it does make a great difference in many cases, especially in portraiture, whether the dominant tint is green or brown. Mr. Barker says:

"The best form of dark slide for the Paget process is undoubtedly the double-back with strong springs. In this the screen and plate are supported along all four edges, and good contact is insured. In the single metal slides and the double solid pattern slides, the screen and plate are only supported along two opposite edges, and if a central spring is used the glass may be curved slightly, and the results will not register quite so perfectly. The form of single metal slide which is provided with four springs gives satisfactory results; the springs are usually made of weak material and should be adjusted occasionally to insure good pressure.

"In the case of metal slides, it is important to make sure when loading the slide that the spring catches are well home over the screen, otherwise there is a danger that when the shutter is withdrawn in making the exposure, the catches will be dragged back by the shutter and allow the screen to slip forward. This would mean a spoiled plate; and, possibly, a broken screen when the shutter is reinserted. This difficulty can be avoided by carefully thinning down the catches with a file or emery cloth, on the under side, and also, if necessary, on the top; the amount of extra clearance required is not enough to affect the register.

"A deeper form of metal slide is on the market—Butcher's Cameo. This has further advantages in that it can be loaded from the back, and the screen and plate are supported along all four edges.

"The spring catches of the metal slides, besides the slipping already referred to, are also liable to catch between the plate and screen, instead of over the screen. In order to avoid both difficulties with the catches, a strip of paper or other thin, flexible material can be stuck with seccotine on the back of the screen at the top and bottom edges, or the top edge only. The waxed paper used for packing the transparency plates makes suitable strips. These strips are applied so that there is about a quarter of an inch overhanging to lap round the edge of the plate.

"The taking-screen and plate should be placed in the slide as flush as possible, so that the edge of the negative can be used as a gauge to obtain a positive that will register properly on the viewing-screen. For this purpose it is better to superpose the screen and the plate in the hand and adjust the edges flush with the fingers before insertion in the dark slide.

"There is no necessity to do the loading in absolute darkness. On the other hand, it is advisable to have a green safe-light, so that when necessary the loading can be inspected. Of course, reasonable care must be taken to avoid fogging. The plate must be kept well away from the light, or in the shade of the body; and the inspection near the light must only be momentary.

"Pinholes and similar blemishes are frequently met with. They are mainly due to dirt on the taking-screen. The screen should be dusted frequently with an old silk handkerchief kept specially for the purpose. Tissue paper or a camel-hair brush could be used, but is more liable to scratch the negative. A very dirty screen can be wiped over with petrol on a wad of cotton wool.

"The plate must not be dusted, but simply tapped sharply on the bench. Two plates should always be loaded at once, a plate never being put back into the packing paper. The plates are always supplied with their coated surfaces face to face; hence, if a single plate were put back into the paper, its coated surface would come into contact with the paper and be sure to pick up particles or be damaged. The makers considerately supply the plates wrapped up in separate pairs.

"It is generally understood that the taking-screen should be in front of the negative, the coated surfaces of screen and plate should be in contact, and the plate, not the screen, should be developed, and face upwards, not downwards. Accidents, however, will happen, and it is advisable to have a little method in loading and unloading, to aid the memory.

"For this purpose I find a couple of simple stands very useful. One stand holds a single negative plate leaning on edge, the other stand holds two taking-screens leaning side by side. A convenient stand is formed with a block of wood as a base, and a thin piece of wood or card as a back. A thin strip of wood is applied to the front of the base to prevent slipping. In loading, two screens are dusted and placed face downwards on their stand, which is kept on the right-hand side. A pair of plates is then taken out of the package, one plate taken in the left hand and placed face downwards on its stand, which is kept on the left-hand side well away from the safe-light, while the other is retained in the right hand, emulsion downwards or away from the palm. It is then a simple matter to pick up a taking-screen with the left hand, tap the plate gently to dislodge dust, superpose plate and screen, and insert in the dark slide. In unloading, the screen and plate are removed together, the plate is taken in the left hand and the screen in the right hand; the screen is verified by glancing through it at the safe-light, and is then placed on its stand; the plate is taken from the left hand into the right hand, and there is then no difficulty in remembering which is the emulsion side; it was away from the palm in the right hand.

"The screens must be taken care of, and should be packed away when not in use. They should not be kept in a damp dark-room, or the coating will soon become cloudy and patchy. The gelatine is very easily scratched, and it is advisable not to pack the screens together face to face in pairs, but each one separately in its original tissue paper, and then to wrap each pair in waxed paper. A taking-screen that is badly worn can be used as a viewing-screen, and if the screen and positive are cemented together with Canada balsam, most of the defects of the screen will disappear."

Quinone as a Toning Agent

Those who are tired of the usual thing in brown tones and wish for something distinctive might be well advised to try quinone as a toning agent. Most workers have noticed at times the strong tanning action of an old hydroquinone developer on the film of a negative, and also the stain which sometimes accompanies it. This is caused by oxidation of the developer in the film, one of the products of this action being quinone. This substance, having the composition $C_6H_4O_2$ is manufactured commercially in quantity, and from it our old friend hydroquinone or quinol, $C_6H_6O_2$, is obtained by a reduction process. It is a light powder of a buff color, and when making up a solution it is best to put it in a bottle with the water and shake up until dissolved, as otherwise the light powder will float at the top of the water together with air-bells. Solutions for toning must be freshly made, as they will only keep for a very short time, not more than an hour or so at the most, and should be strained through muslin or cambric before use.

As a toning agent for bromide prints and lantern slides quinone gives some fine colors, quite distinct from those obtained by other methods. It has also the advantage of hardening the film, so that it will stand washing in hot water without injury. A suitable formula for a toning bath is: Quinone 1 part, potassium bromide 5 parts, water 200 parts. On placing the print or slide in this bath, the color rapidly becomes warmer, the final tone being a red chalk or the final tone of the Ferguson copper process, but more of a red, less of a yellow. It may now be washed and dried without much change of color; in the case of lantern slides, however, there will be a general cloudiness or opalescence remaining in the film. To remove this we may make use of an after-bath, which gives us the power of altering the color, if desired. After washing, we may use a bath of 10 per cent. ammonia, which clears the image, producing, at the same time, an increase of contrast, and changes it to a warm black. During the final washing and drying the tone returns to nearly the original red color. Caustic soda or potash have an intensifying action, though slight, but do not remove the cloudiness.

Alkaline sulphides clear the image and produce yet other shades of brown; perhaps the best of these is ammonium thiomolybdate, using the solution, as sold for use after bleaching, under the name "Cubrome Thiomolybdate Toner"; or a suitable solution may be made up of ammonium thiomolybdate six grains, ammonia 50 minims, water ten ounces. This acts slowly, and requires a few minutes for the action to be complete. A very fine tone may be obtained, after washing out excess of quinone, by placing for a minute or two in an amidol developer; the reddish color rapidly changes to a cool brown, in the case of slides a near approach to a water-color sepia, one of the finest colors the writer has obtained by any process. On a bromide print the color may be best described as a purplish-brownish-black, and is equally fine in its way, and not to be obtained by other means. A solution of sulphite without the amidol gives a cool brown, though hardly as good as the last-named. Should a toned print or slide be found too dense after treatment, it can be reduced by a weak bath of hypo, with little, if any, effect on the tone. There seems no reason to suspect any want of permanency after quinone toning, as the image consists of silver in the metallic state (possibly a part may be converted into bromide?) in combination with a stable organic substance. The process can also be employed as an intensifier for negatives, the red color being very non-actinic, and giving as great an increase of printing value as mercury and ammonia.

Quinone is stocked by some of the large chemical firms, but those who have difficulty in obtaining it or do not care for the trouble of weighing small quantities at each time of use can find just what they require in the handy tubes put up by Messrs. Lumière under the name of "Quinochrome." The contents of one of these is simply dissolved in seven ounces of water, and is ready for use without any addition. The ordinary dealer, if he does not stock these, can easily get them to order. —E. S. Maples, in *The Amateur Photographer.*

Miniature Lights in the Dark Room

Very small conveniences sometimes prove of considerable value in facilitating work, and many people handicap themselves most unnecessarily by neglecting apparently small matters. In a large dark-room much inconvenience is often caused by inefficient lighting. There is probably plenty of light at the developing sink, but other parts of the room are so dark as to be practically inaccessible when developing is going on. Safelamps can, of course, be multiplied, but if these are all of the usual type too much light may result, while in any case their fitting up is an expensive item. The cost can, however, be reduced to a minimum by using miniature metallic filament lamps with current derived from an accumulator or constant battery, whichever is most convenient. Moreover, these little lights can be fixed up quite easily in confined corners, in cupboards, or under shelves, and even a white light can sometimes be so tucked away that it can be used without involving any risk to developing operations. One light may, for example, be fixed up on the bench where the dark-slides are loaded, so that it can be used for inspecting the slide before loading. Another may be tucked away somewhere by the shelf or in the cupboard where the plates are stored, so that the right box can be identified. There is generally a shelf or place of some sort in every dark-room for oddments, such as spare measures, dusting brushes, clean dusters, pins, etc., and a small light here may be invaluable when anything is wanted in a hurry. As a rule, yellow will be quite safe enough for these little lamps if they are arranged so that no light can directly reach the sink from them, and the safelamps can quite well consist of small card boxes covered with yellow fabric or yellow paper. Even large pill boxes will serve. The small fittings, switches, etc., required for these lamps are cheap, while the wiring is a simple matter. Very efficient constant batteries are also obtainable nowadays at a very moderate price, and quite an elaborate installation can be fixed in a spare hour or so.—*British Journal of Photography.*

A Photographic Vocabulary

The following list, for which we are indebted to *The Amateur Photographer* and *Deutsche Photographen Zeitung*, furnishes our readers with a fairly complete international photographic dictionary well worth preserving. One frequently comes upon formulæ or working directions printed in a language with which he is not familiar. Turning such over to even a well-educated native of the country of origin for translation will generally be found useless, as even the most learned may lack knowledge of photographic terms which do not always take the literal translation. This series is necessarily brief, but most words in frequent use by photographers have been included. These, in connection with the usual series of phrases for tourists, to be found in most handbooks of foreign travel, will suffice when abroad. In fact, when the main routes are kept, English will carry the traveler through for ordinary purposes; but it is in technical descriptions of photographic goods, etc., that the wanderer may trip, and this may mean all the difference between success and failure. The following list may therefore prove of value, and should be kept for reference.

English	*French*	*German*
Acid	Acide	Säure
Acetate	Acetate	Essigsauer
Alum	Alun	Alaun
Amateur	Amateur	Kunstliebhaber
Anhydrous	Anhydre	Wasserfrei
Apparatus	Appareil	Apparat
Arc lamp	Lamp à arc	Bogenlampe
Background	Fond	Hintergrund
Baseboard	Base	Laufboden
Bell, bubble	Boulle	Blase
Bellows	Soufflet	Balgen
Bleach out, to	Blanchir	Ausbleichen
Blotting paper	Papier buvard	Fliesspapier
Boracic acid	Acide borique	Borsäure
Bromide	Bromure	Bromkali
Bromide paper	Papier au gelatino-bromure	Bromsilberpapier
Camera	Chambre obscure	Kamera
Carbonate	Carbonate	Kohlensauer
Cardboard	Carton	Pappendeckel
Caustic	Caustique	Atz- (Kalium usw.)
Chalk, white	Craie lévigée	Schlemmkreide
Color (pigment)	Couleur ou mordant	Farbstoff
Copper	Cuivre	Kupfer
Crack	Cassure, craquelure	Riss
Dark-room	Laboratoire pour la photographie	Dunkelzimmer
Dark-room lamp	Lanterne de laboratoire	Dunkelkammerlampe
Dark slide	Châssis	Kassette
Daylight	Plein jour	Tageslicht
Depth of focus	Profondeur de champ	Schärfentiefe
Develop, to	Développer	Entwickeln
Developer	Revelateur	Entwickler
Development	Dévéloppement	Entwicklung
Diaphragm	Diaphragme	Blende
Dish, tank	Cuvette	Schale

English	*French*	*German*
Distilled water	Eau distillée	Destilliertes Wasser
Dry, to	Secher	Trocknen
Door	Porte	Thür
Durable, permanent	Inaltérable	Haltbar
Eikonogen	Iconogène	Eikonogen
Enlargement	Agrandissement	Erweiterung
Exhibition	Exposition	Darstellung
Expose, to	Exposer	Belichten
Exposure	Pose, exposition	Belichtung
Extension	Extension	Auszug (einer) (Kamera)
Film	Pellicule	Film
Filter (screen)	Ecran	Filter (für Licht)
Finder	Viseur	Sucher
Fix, to	Fixer	Fixieren
Fixing bath	Bain fixateur	Fixierbad
Flashlamp	Lampe éclair	Blitzlichtlampe
Flashlight	Poudre éclair	Blitzlichtpulver
Flat	Flou	Flau
Focal length	Distance focale	Brennweite
Focal-plane shutter	Obturateur de plaque oder à rideau	Schlitzverschluss
Focus	Foyer	Lichtpunkt (v. einstellen)
Focusing	Mise au point	Einstellung
Focusing glass	Glace (verre) dépoli	Mattscheibe
Folding camera	(Appareil) pliant	Klappkamera
Frame	Cadre	Rahmen
Gelatine impression	Impression à la gelatine	Gelatindruck
Glossy, bright	Brillant	Glänzend
Gold chloride	Chlorure d'or	Goldchlorid
Gold-toning bath	Virage à l'or	Goldbad
Guncotton	Coton poudre	Schiessbaumwolle
Halftone	Demie teinte	Halbton
Hydrochlorate	Chloridrate	Salzsauer
Hypo	Hyposulfite	Fixiernatron
Image	Image	Bild
Instantaneous	Instantané	Moment
Intensify, to	Renforcer	Verstärken
Intensity	Intensite	Intensivitat
Interior	Intérieur	Innenraum
Iris diaphragm	Diaphragme à iris	Irisblende
Iron	Fer	Eisen
Landscape	Paysage	Landschaft
Lantern slide	Diapositif	Diapositiv
Lead	Plomb	Blei
Lens	Objectif	Objective
Light	Lumière	Licht
Load, to (or fill)	Mettre au châssis	Einlegen (i. d. Kassette)
Magic lantern	Lanterne magique	Zauberlaterne
Matt	Mat	Matt
Measure	Mesure	Maff
Mercuric chloride	Chlorure mercurique	Sublimatlösung
Mercury, Bichloride of	Bichlorure de mercure	Sublimat
Methyl alcohol	Alcool methylique	Methylalkohol
Mount, to	Monter	Aufziehen

English	*French*	*German*
Mountant	Colle	Kleister
Negative	Negatif	Negative Bild
Nitrate	Azotate	Salpetersäure
Oxalate	Oxalate	Oxalsauer
Oxygenated water	Eau oxigenée	Wasserstoffsuperoxyd
Paper	Papier	Papier
Permission	Permission	Erlaubnis
Photograph	Image photographique	Lichtbild
Photographer	Photographe	Photograph
Photography	Photographie	Lichtbildkunst
Photogravure	Photogravure	Lichtdruck
Photomicrography	Photomicrographie	Kleinlichtbildkunst
Picture	Pose	Aufnahme
Plates, dry	Plaques photographiques	Trockenplatten
Platinum toning bath	Virage au platin	Platin-Tonbad
Portrait	Portrait	Portrat
Positive	Positive	Positiv
Potassium bichromate	Bichromate de potasse	Kaliumbichromat
Potassium bromide	Bromure de potassium	Bromkalium
Potassium carbonate	Carbonate de potassium	Pottasche
Potassium chloroplatinate	Chloroplatinite de potassium	Kaliumplatinchlorür
Print	Epreuve	Kopie oder Abzug
Print, to	Tirer	Kopieren
Printing frame	Châssis presse	Kopierrahmen
P. O. P.	Papier au citrat d'argent	Aristopapier
Rack and pinion	Crémaillère	Trieb (an d. Kamera usw.)
Rapid (lens)	Lumineux	Lichtstark
Rapidity (lens)	Luminosité	Lichtstärke
Red light	Lumière rouge	Licht, rotes
Reduce, to	Affaiblir	Abschwächen
Reducer	Affaiblisseur	Abschwächer
Reducing	Affaiblissement	Abschwächung
Refractive index	Indice de réfraction	Brechungsexponent
Release, to	Déclencher	Auslösen (Verschluss)
Release	Déclenchement	Auslösung
Reversing	Inversion	Umkehrung
Roll-film	Pellicule en bobine	Rollfilm
Runner	Rainure	Laufschiene
Salt (common)	Sel marin	Kochsalz
Screen	Réseau	Raster
Self-toning	Auto-vireur	Selbsttonend
Sharp	Net	Scharf (zeichnung)
Sharpness	Netteté	Schärfe
Shutter	Obturateur	Verschluss
Silver nitrate	Nitrate d'argent	Silbernitrat
Slit	Fente	Schlitz
Sodium carbonate	Carbonate de sodium	Natriumkarbonat
Sodium chloride	Chlorure de sodium	Chlornatrium
Sodium sulphite	Sulfite de sodium	Schwefligsaures Natron
Souvenir	Souvenir	Andenken
Speed	Sensibilité	Empfindlichkeit
Spool	Bobine	Spule
Starch	Amidon	Stärke
Stereograph	Epreuve stereoscopique	Stereoskopbild

English	*French*	*German*
Studio	Atelier	Atelier
Stop down, to	Diaphragmer	Abblenden
Sulphide toning	Virage sulfurée	Schwefeltonung
Sulphite	Sulfite	Sulfid
Take (to take a picture)	Poser	Aufnehmen
Tartrate	Tartrate	Weinsauer
Telephotography	Telephotographie	Telephotography
Telephoto lens	Teleobjectif	Fernobjectiv
Time of exposure	Temps de pose	Belichtungszeit
Tonality	Tonalité	Färbung
Tone, to	Virer	Tonen
Toning bath	Bain de virage	Tonbad
Toning and fixing (combined)	Virage-fixage	Tonfixierbad
Too bright	Trop vive	Zu stark
Towel	Serviette	Handtuch
Tripod	Trepied	Dreifuss
Transparent positive (lantern slide)	Diapositif	Diapositiv
Varnish	Vernis	Lack
Veil (fog)	Voile	Schleier
Wash, to	Laver	Waschen
Water	Eau	Wasser
Wide angle	A grand angle	Weitwinkel
Yellow light	Lumière jaune	Gelbes licht

A New Form of Paper Negative

Fritz Largajolli, an Austrian photographer, is advocating the use of paper negatives in a new manner. In a paper to the Imperial Photographic Society of Austria (vide *Apollo* No. 454), he urges twenty-five reasons why negatives made on an opaque basis are better than those taken on transparent media. As most of these are the same as the claims made for paper negatives, I will not repeat them, but state that the modus operandi of the author is to use a rapid bromide paper for the negative and develop the same for correct gradation when viewed by reflected light; in other words, exactly as a bromide positive is treated. The negative so made is altogether too weak to be used for printing by transmitted light, but is copied through the lens, thus yielding direct positives, which are free from the granularity so unpleasantly present in the print made from a paper negative in the ordinary way. The author uses a special form of copying apparatus admitting of reduction or enlargement, one which is to be put on the market shortly. The author of the article writes in a critical and somewhat unconvinced spirit of the proposed method, especially doubting the elimination of granularity, but admits that examples of the work that he has seen are good. Personally, having had a good deal of experience in copying black and white, I can quite believe that with the mode of lighting used, which is identical with what I have long employed, granularity would not occur at all. To me, the objection lies in the present impossibility of obtaining ortho or panchromatic negative paper. Otherwise it seems entirely possible and at the first opportunity I will try it out.—H. D'A. P.

Rapid Drying of Oil Prints

Monsieur L. Lemaire has a paper in the *Bulletin* of the French Photographic Society in which he strongly advocates a method he has worked out for the rapid drying of oil prints. He mentions, in fact, two modes of procedure, but the one which seems more likely of acceptance is as follows:

After the print has been pigmented in the usual way, and allowed to dry a matter of a few hours, it is immersed in a bath consisting of one per cent of benzole in ninety-five per cent alcohol. In this it is left for half an hour with occasional rocking, drained, and hung up to dry. In this way an oil print is obtainable in a few hours in place of several days, and it is freed from the oily elements which are often a detriment to its beauty.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

To the I. P. A. Members

I have quite a number on my exchange list and some of them are very different from the others. One will simply write a brief note to enclose with his prints. He acknowledges the receipt of my offering, and adds: "Enclosed please find, etc.," while another writes me a nice, chatty letter about himself, his work and photographic things in general. His letters are much read, some three or four times, just because they make one feel good. The I. P. A. was established for those especially who have not the fellowship of enthusiasts like myself, and the member who writes but a note misses half the advantages offered by the I. P. A., that of the good fellowship. How often I have wished for the companionship of some one who already knew a little about photography in an amateur way, some one with whom I could talk. I have found but one such man, one who really knew how to be companionable, since I became interested in serious work; and, as the fates have it, he has not been doing a thing at photography for some years past. If you want the most possible out of your I. P. A. membership, try some lively correspondence. Even if you are only exchanging post cards, do not carry on a short, curt correspondence.

One of my friends, one who could make some really good prints, complained that he was looking for some new exchangers because his old ones were dropping off. I suggested, as nicely as I could, that perhaps the trouble lay in his sending out of prints such as he was sending me, prints that were poor and of uninteresting subjects, and that if he would send prints such as I knew he could make, he would not find his lists depleted. To my regret, my good intents terminated our exchange; while at the same time some of my exchanges seem willing to receive little suggestions gracefully.

If one finds a member who does fine work or who has interesting pictures, or both, he should "hump himself" to do good work and get the kind of pictures he wants. One can use the same prints in exchanging with others, and it is surprising what can be found to photograph along nearly any line when one's eyes are kept open.—C. R. LOWE, I. P. A. 3676.

NEW MEMBERS

3902—L. R. McChristy, Lewis, Kansas.
3¼x5½ and 5x7, developing paper, of views and portraits; for the same. Class 1.

3903—Albert C. Bischel, 304 W. 30th St., Kearney, Neb.
Class 2.

3904—Frank Christianson, Vulcan, Alberta, Canada.
Class 2.

3905—Hans Bothe, Manila, P. I.
2¼x3¼, various papers, of scenes of the Philippine Islands; for any kind if accompanied by an explanation. Class 1.

3906—Hans Anderson, 916 10th Ave., Lyons, Iowa.
Class 2.

3907—Charles E. S. Rasay, 528 Gansevoort St., Little Falls, N. Y.
Class 2.

3908—S. J. Anderson, Box 32, Bellaire, Ohio.
3¼x5½ and 5x7, developing papers, of studies in the nude and semi-nude; for the same or draped studies. Good work sent, want the same. Class 1.

3909—R. W. Franklin, care Twohy Bros., Mile 123, Kamloops, B. C., Canada.
3¼x4¼ and 3¼x5½, developing papers, of landscapes and B. C. scenery; for anything of general interest. Class 1.

3910—F. A. Brewer, Issaquena, Miss.
3¼x5½, developing papers, of general, good many timber, logging and saw mill pictures; have no particular desires, simply want to exchange. Class 1.

3911—F. Sufea, Flagstaff, Ariz.
Class 3.

3912—J. E. Baxendale, care L. A. A. Power Plant, Lone Pine, Cal.
4x5 and post cards, developing paper, of marine, desert, mountains, Mississippi and naval scenes; for female figure studies, foreign views, Eastern sea coast and harbor views. Class 1.

3913—G. F. Lewis, 9 State St., Hillsdale, Mich.
Class 2.

3914—William Henze, Box 49, Langenburg, Sask., Canada.
All sizes, all kinds of paper, of good ideas; for all kinds. Class 1.

3915—August Vogt, Box 147, Cokeville, Wyo.
Class 2.

3916—Fong Get, 914 Stockton St., San Francisco, Cal.
Class 2.

RENEWALS

3325X—Mrs. Ida M. Bard, Arcadia, Texas.
Post cards, various papers, of birds' nests, portraits, flowers, views, animals and various other things; for the same, also mountains and any good subject. Class 1.

3375—Harvey G. Grofe, Boyertown, Pa.
Class 2.

3646—Albert S. Nelson, Glenwood, Minn.
Post card size, 5x7 and larger, developing paper, of art and art views, also lantern slides; for the same. Class 1.

3676—C. R. Lowe, Benedict, Neb.
2½x4¼ of some P. I. stuff, 9x12 cm. of birds, nests, flowers, home portraits, child studies and enlargements. Not hard to suit as to subject, but want good, clean, snappy work; I send out that sort. Like correspondence. If you do not like my stuff, say so and send it back; that is the way I do. Class 1.

CHANGES OF ADDRESS

1213—A. B. Davis, 101 Adams St., Sandusky, Ohio.
(Was 418 Franklin St.)

2213—Henry A. Hoyt, Redwood City, Cal.
(Was San Jose, Cal.)

3025—Felix Cremer, P. O. Box 316, Needles, Cal.
(Was Wharton, N. J.)

3540—J. W. Holt, 499 Harrison St., Portland, Ore. (Was 433 Broadway St.)

3656—George C. Held, 17 West Skidmore St., Portland, Ore.
(Was 1019 Haight Ave.)

3657—H. N. Krenkel, Y. M. C. A., Sacramento, Cal.
(Was 2210 K St.)

3703—W. C. Braas, Carlisle, Ark.
(Was San Francisco, Cal.)

3732—Harry M. Clark, 5608 W. 8th St., West Duluth, Minn.
(Was Highland Park, Ill.)

3742—S. H. Nichols, Box 298, Hayward, Cal.
(Was Merced Falls, Cal.)

3813—George E. Peaslee, Pratt Institute, S. & T. Dept., Brooklyn, N. Y.
(Was 159 Willoughby Ave.)

3862—Olaf Larson, Hixton, Wis.
(Was Bentley, Alta., Canada.)

WITHDRAWAL

3793—Charles A. Senior, Grey St., Onehunga, New Zealand.
On account of the destruction of his dark-room, is obliged to withdraw for a time. Will publish a new notice when he is ready to exchange again.

OUR BOOK SHELVES

"Commercial Photography of To-Day"

In this new book by George W. Hance, every phase of commercial photography is covered in a clear, non-technical manner by a photographer who for many years has made a specialty of the subject and has appeared as lecturer before many gatherings of photographers and at conventions. The apparatus needed, the kind of prints to make, prices, combination prints, doctoring negatives, banquet work, cirkut pictures, exteriors and interiors, furniture, glass, silverware, store windows, etc., are only some of the subjects on which real inside information is given in the twenty-two chapters of the book. Nearly one hundred illustrations. Cloth bound. Size 7¼x10. Price postpaid, one dollar and fifty cents. Obtainable at all dealers in photographic supplies or from the publishers, *Abel's Photographic Weekly*, Schofield Building, Cleveland, Ohio.

"New Men For Old"

This is the title of a book by Howard Vincent O'Brien, one that we have found so interesting and absorbing that a departure is made from our practice of ignoring works of fiction in this department. We can hardly do better, failing to find words to express our own pleasure in the reading, than to quote the words of William Lyon Phelps, of Yale, who says:

"I have just finished reading it, and I wish to express my sincere and hearty admiration of it. I think for a first novel it is nothing short of remarkable. In the first place, I found it interesting from first word to the last, and read it with great avidity and delight. Its characters are real characters, it has a good plot, and the story abounds in interesting ideas. I shall do everything I can to increase the sale of this book."

Published by Mitchell Kennerley, New York. At all book stores, one dollar and twenty-five cents net.

"Photography in Colors"

A second edition of the popular work with the above title being demanded, the author, George Lindsay Johnson has been given the opportunity of completely revising the work, adding new chapters and bringing the whole work forward to the present time. Several of the author's special discoveries have been added and this makes the book a valuable and dependable instructor for those interested in color work, a branch of photography that is now occupying such a number. A chapter is devoted to Kinematography in the colors of nature, Utocolor printing is given a new chapter, and in other ways the book has been improved. There are thirteen full-page plates, five of them in color, and numerous other illustrations add to the clearness of the text. The book is published by E. P. Dutton & Company, New York. Price, one dollar and twenty-five cents net.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

L. E. Sherwood, formerly of Stockton, now of Marysville, Missouri, says California is good enough for him,—he's coming back.

H. M. Seron, of Marysville, was in the city recently.

Charles Seabolt, of Bushnell's San Jose studio, was seen wandering along Powell Street recently with a rather scared look on his face. Don't they have street cars in San Jose?

George Dolan, of Probus fame, has purchased a bungalow up in Sonoma County, where he will spend his annual vacation this year.

Mose Grady, manager of Hartsook's San Francisco studio, is rusticating in the Santa Cruz Mountains for a few weeks. Mrs. Grady is with him.

Charles Boussum and wife took an auto trip to Mount Hamilton recently. Charles says that navigating the road up the hill tried his nerves somewhat; he will adhere to State highways in the future.

The Eastman Professional School was a big success again this year. The same general instructors as last year kept those in attendance interested.

The Photographer's Opportunity

At no time in all photographic history have the photographers of America been offered such an opportunity to build a bigger business, and at the same time achieve national fame and win a worth while prize as that presented by Ansco Company's five thousand dollars Loveliest Women Contest. Think what it means to have your work—*your* masterpiece—exhibited to the whole world at the great Panama-Pacific Exposition. Think of the prestige—the advertising value such an exhibition affords, to say nothing of the personal pride in getting your efforts before such a distinguished, international audience.

Leading magazines, too, have requested the privilege of reproducing the winning photographs, along with the names of the winning photographers. Here is the finest kind of advertising, at a time when interest in the Contest is at fever-heat. Sufficient inducements indeed to rouse into action the ambition and enthusiasm of every follower of the art of photography! But ahead of all these considerations is the one suggested above—the opportunity to build a bigger business. What the national advertising Ansco Company is doing at heavy cost in the leading popular magazines is for your benefit and theirs, and it is intended to send to your studio the "Loveliest Women" prospects. Make use of the free newspaper electrotype service offered, consisting of attractive cuts prepared especially for photographers by advertising experts. These will help you, by the expenditure of a few dollars in your local paper, to get all the value there is in Ansco Company's national advertising campaign costing hundreds of thousands of dollars.

One of the fine things about these electrotypes is that they are practical. They are not so large that it requires a big expenditure to run them in your local papers, and they are not stock cuts. There is ample room for your name and address at the bottom, just as though you had them made yourself and to your own specifications. This is not a new idea, but it is certainly different from the thought behind the average electrotype, which often usurps all the space for the manufacturer, and crowds out the man who is paying for the space.

Aside from their practicability, these little advertisements are very artistic and contain just the sort of copy that will bring new customers to your studio. This is not theory. It is working out in practice every day, and the surprising number of requests Ansco Company has already had for electrotypes is a good indication of their value to photographers. Send for yours today, before you lay this magazine aside, if you haven't already done so.

You have until December first to make the most of these wonderful opportunities. That's plenty of time if you get busy right away. Talk to your Ansco dealer about the contest, and get your entry blanks from him or write Ansco Company direct for them. Remember that there are fifty cash prizes, ranging from five hundred dollars to fifty dollars. There is no reason under the sun why you cannot win one of these. Remember, too, the electrotypes—they are furnished to you absolutely without cost. Send for yours today, and for the sake of increased business, international fame, and a real, spendable cash prize, get right into the thick of this contest now.

The Model C Mirrograph

We have recently had the pleasure of examining one of the new model C Mirrograph cameras and have found it of attractive design, beautiful finish, light in weight, and, best of all, the price is most reasonable, being only forty-five dollars without lens, and the manufacturers will furnish any lens on the market at maker's list price without charge for fitting.

The camera is of the reflecting type, showing the image full size and right side up until the moment of exposure. The picture is 3¼x5½ and the camera measures only 7¼x7x6 when closed. It uses either plates or film pack and weighs only a trifle over four pounds. As the front is opened the bed is thrown down, the lens automatically comes to focus for distant objects and may be run out for near objects by turning the focusing screw located in the usual position at the side of the bed. Another exclusive Mirrograph feature is the speed of the direct-reading focal-plane shutter being shown by plain figures that eliminate the necessity of referring to a "speed table" in order to compute the exposure time. Our readers should investigate the merits of this excellent camera by writing for list to the Mirrograph Company, 5503 East Washington Street, Indianapolis, Indiana.

New Selling Plan

A new departure is announced by the importers of the Barnet plate, one that will no doubt be of interest to many of our readers. J. L. Lewis has introduced a new policy of placing the net selling prices on each box of Barnet plates. It will now be possible for one to go to a dealer and know just what he should pay for his plates, where formerly almost every dealer had a different price. Now one will know just what he is to pay before he buys, and the same price will prevail all over the country. Those unacquainted with the qualities of the Barnet plate will do well to give them a trial. Comparatively new is the Self-Screen Ortho, which has a light filter embodied in the emulsion, enabling one to secure true tone values without a ray-screen. The plate has a speed of 300 H. & D., which is remarkable for one of this kind. Among the other well-known brands are the Super Speed, which is the fastest orthochromatic plate made; the Extra Rapid Ortho, Red Seal, and the Red Diamond. If you cannot obtain these plates from your dealer, write for full information to J. L. Lewis, 522 Sixth Avenue, New York City.

An Informative Booklet

H. O. Bodine, Director of Sales, advises that he will be pleased to send a copy of "How to Use Agfa Motion Picture Film" to any of our readers upon receipt of four cents in stamps. This in reply to an inquiry from us as to how our readers could obtain this booklet containing full information and formulas for the development, fixing, washing, drying, hardening, intensifying, reducing and toning to various colors of moving-picture film. The booklet is not a large one, but is one that will interest a large number of our readers, and we are pleased to be able to advise that four cents in stamps sent to the Raw Film Supply Company, Incorporated, 15 East Twenty-sixth Street, New York City, will bring a copy.

Coloring Prints and Lantern Slides

The coloring of gaslight bromide prints and lantern slides was recently demonstrated before the California Camera Club by C. R. Danielson, of Burroughs, Wellcome & Company. The prints or slides were simply immersed in the one solution bath until the desired shade was obtained, one or two minutes usually sufficing, and then washed. Pleasing color effects were obtained by the combined use of the toners and stains: a marine scene was sepia toned and then stained yellow to give a sunset effect. It was noted that the highlights remained or could be washed clear after toning, whereas the stains seemed to have greater affinity for the whites, leaving the shadows with less color. The demonstration was a most successful one and the wide range of pleasing results so easily obtained with the Burroughs, Wellcome & Company's "Tabloid" toners and "Soloid" stains made a most favorable impression.

The Hunter Tank

Those of our readers who use roll film will do well to interest themselves in the new Hunter Film Developing Tank advertised on another page. We have had an opportunity of trying one of these and are more than pleased with its many meritorious features. It is easy to handle, easy to examine the film during development, and all operations are completed with the film on the frame without any bother such as attends the use of some film tanks. Any size film will fit the instantly adjustable catches on the frame, anything from the vest-pocket size to the 4x5. It is made of handsomely nickel-plated brass and will withstand strong developers and acid hypo indefinitely. It makes the developing of roll film both rapid and practical, without the usual muss and stains. By all means investigate this utility if you wish to simplify your photography and make it more certain of good results at the same time.

Help Wanted

HELP WANTED—who will work and not whine, who feel that the positions they fill are stepping stones to better things, who look upon rebuffs as all in the day's work, who smile at obstacles and buckle down in real earnest to overcome them.

HELP WANTED—who will work the blessed day through with a light heart and a pair of willing hands, who will not watch the clock and wish for the closing whistle—this is the toiler who sings at his work, who finds the day full of the joy of doing, who goes to the top by sheer force of merit.

HELP WANTED—who can take orders and give them, who can show initiative and good judgment, who will dare to do a thing without the gad, whose every effort spurs them on to better things, whom every employer wishes and watches for the chance to advance.

HELP WANTED—in every line of endeavor, in all climes, in each factory and shop in the land, who labors for love, as well as self, who places a well-done task before a full pay envelope, but to whom the same will gravitate in his direction as sure as fate.

HELP WANTED—on land and sea, under the surface of the earth, and in the clouds above, who braves danger with a strong and willing heart, who knows not the taint of intemperance or the pangs of remorse.

HELP WANTED—who can fill these requirements so that the man who pays for service will get his money's worth, who can say, "My helpers are men."

Deeds tell every time, while words are only bluster.

HELP WANTED—who fear not the usurping of their places by superior workmen, knowing full well their work cannot be excelled.

Help like the above is always wanted.

Can you fill the bill?—J. B. M. in *Photo News*.

New Cooke Catalogue

The new catalogue of Cooke lenses, showing revised prices, has just reached our desk. As usual, it is handsomely printed and illustrated. In addition to the usual catalogue features, there is incorporated much valuable information, including a table of view angles, advice concerning the choice of lenses for different kinds of work, method of testing lenses, common troubles due to imperfect cameras, and the reader told in a clear and apprehensive manner just what is meant by depth of focus, besides other valuable information that will be appreciated by all. It is one of the best lens catalogues that has reached us in a long time and we would advise our readers to at once send for a copy, sent free upon application to our readers, by The Taylor-Hobson Company, 1133 Broadway, New York City.

An Article of Merit

The Boo-Bok Library Company, of Boston, originators of the system for filing prints and films, have put on the market a popular-priced form of their book-shaped filing cabinets called the Vertifile. The Vertifile is a wooden box, bound in cloth just like a book, and presents a very handsome appearance. There are three sizes, Nos. 10, 20 and 30, taking three different sizes of cards; but all three sizes, when standing on the bookshelf, make a uniform set of books. The Vertifile is a complete filing cabinet with an adjustable follower inside. Besides being used for photo purposes, there are two other sizes, Nos. 15 and 25, for filing regular 3x5 and 4x6 cards, respectively. The combined attractiveness of style and price should appeal to all. The Vertifile certainly impresses us as having all the elements of great popularity. We would refer our readers to the advertisement appearing elsewhere in this issue, suggesting that they send at once for full particulars.

Kodak Advertising Portfolio

Writing the Eastman Kodak Company concerning the matter, we are advised that they still have on hand a few of the handsome portfolios containing reproductions of the prize-winning pictures entered in the last or 1913 Kodak Advertising Contest and will be glad to send them to such of our readers as are sufficiently interested to ask for them, as long as the supply lasts. The pictures reproduced are all of the highest quality and of exceptional interest, particularly to those who contemplate entering the advertising contest this year, and we would strongly urge our readers to avail themselves of this opportunity to secure this portfolio. Address Eastman Kodak Company, Rochester, New York.,

Give Them a Trial

The Central "Special" is evidently a very fine plate, one that, during the past few years, has continually forged ahead until today it ranks high in popularity. This means that it is of excellent quality or it would not be so popular with so many good photographers. If you are not now using Central "Specials," now is a good time to send an order to your dealer, as the plates are said to be par excellent for hot weather. A fair test will soon prove their merits, soon verify or otherwise the claims of the makers for perfect gradation, wonderful latitude and extreme speed, a combination needed in a plate for studio work. Made by the Central Dry Plate Company, St. Louis, Mo. Write them for free copy of their little booklet, "Dark Room Pointers"; it contains information which will be of help to you.

New California Card Representative

Charles R. Wise, the new representative of the California Card Manufacturing Company, is calling upon the trade of the bay cities and has already earned an enviable reputation for his businesslike and courteous methods. Mr. Wise will look after the ever-increasing demands of the local trade, the need of an additional representative being made necessary by the increased demands upon Mr. Drossel's time in looking after the out-of-town business on this part of the Coast.

Notes from the Illinois College of Photography

A number of former students were in attendance at the National Photographers' Convention at Atlanta. Five of them had exhibits on display, and five of their pictures were accepted by the Committee of Judges, including ones by Verne Blackburn, of 1909; Miss Florence Allen, of 1912; and Edward H. Weston, of 1908. One of Mr. Weston's was selected as among the best twelve pictures at the Convention and was purchased by the Association.

Mr. Beattie, demonstrator for the Cramer Dry Plate Company, gave an able talk and demonstration at the college last month.

Professor C. W. Dishinger, of the printing and finishing department, was married on the seventeenth of June to Miss Cybele Douty, of Mobile, Alabama. They attended the Photographers' Convention at Atlanta while on their wedding trip.

Professor C. W. Killen has acquired a fine new Ford touring car and is rehearsing for the Indianapolis Speedway race next May.

We received pleasant visits last month from C. W. Koehn, of 1909; Fred Hulstrand, of 1910; Albert H. Leeming, of 1905; and Bernard Olding, of 1912. Wallace Christman, of 1911, also paid the college a visit and while in this city took unto himself a bride, Miss Margaret Arendt.

After undergoing an operation on his throat, which proved much more serious than was expected, Professor Latshaw has resumed his duties in the laboratory.

E. Komai, who has been taking special work at the college the past three months, has left for New York, whence he will sail for Japan in a short time.

A magnificent collection of thirty-six portraits by J. C. Strauss, the famous St. Louis photographer, was sent to the College for exhibition through the courtesy of Mr. Sadakichi Hartman, the art writer and critic. They were on display in the music room at the College for two weeks, proving a great inspiration to the students.

Cameras Stolen

The Fourth of July has a great attraction for outdoor camera enthusiasts, and it frequently happens that one of a party is without a camera and would very much like to possess one. This does not warrant them stealing a camera, but it seems that some vacationists must have had this mind when they threw a stone through Willoughby's window in New York and took away six of the most compact imported cameras they could reach. They evidently made a clean get-away as the police failed to arrest anybody in connection with the matter, although a vigilant search is being made. The numbers of the cameras are given below, and we trust our readers will keep their eyes open if any of them should be offered to them for sale. We publish a list of the cameras and feel sure you will all co-operate in endeavoring to bring the offenders to justice: 3A Special Kodak No. 69480, Watch Pocket Carbine No. 11620, two Ica Ideals Nos. 17754 and 41715, Rietzschel Polygon, no number, and Icarette, Model A, No. 6983.

Save the Game

The California Associated Societies for the Conservation of Wild Life advises that the initiative and referendum are being used for commercial purposes in this State by certain promoters of a statute to permit the sale of all game, including deer and quail. If the plans carry, the wild game will disappear very quickly from within the borders of this State. The federal government and neighboring States have passed protecting laws and all the States bordering on California have enacted the "no-sale" of game laws. Deer have not been sold in the markets since 1893 and quail have not been sold since 1901, but an initiative petition is now being circulated by the larger hotels, restaurant keepers and commission men to place all our game on sale and allow it to be slaughtered by the market hunters. The attention of the public is called to this matter so that they will not sign the initiative petition which is now being circulated and, if carried, would be a step backward and a disgrace to the State of California.

Booster All

Through their policy of liberal treatment in selling direct to the amateur, a strong feeling of loyalty and support has resulted among the customers of The Photo Products Company, Chicago. As one of them, G. C. Flegel, Westville, Indiana, expresses it: "I am compelled to boost Instanto. A person can't do otherwise when he has used it once." If you have not tried Instanto yet, invest twenty-five cents. You can not lose, for if you fail to like the results, request it and you will receive fifty cents in return, but the chances are that you, too, will become a booster. See their advertisement on another page.

Having a System

There has recently come to our notice a utility that should commend itself instantly to every photographer, namely, the Vertifile, the basis of the Boo-Bok system of filing, particularly adapted to the filing of photographs, snapshots and films by virtue of the mounts, folders and index cards supplied with each unit. This file is a handsome book-shaped, cloth-covered file, supplied in three sizes. Prints and films are easily filed and instantly located when wanted, besides being protected in a container that is an ornament to one's shelves. The cost is much less than that of the usual album and the convenience very much greater. But why try to describe its many advantages when all the reader need do is to write for circulars of the system, for photographs and samples of folders and the like, addressing, Boo-Bok Library Company, Dept. J, Boston, Massachusetts.

Sixty Years of Photography

In its issue of June sixteenth *The British Journal of Photography* celebrates the completion of sixty years of publication by the presentation of a supplement, entitled, "Photography, Past and Present." These pages provide a review of the origin and progress of photography from the year 1839 to the present day. They show the great developments which have been witnessed in photographic processes, many of which owe their existence to the contributions to the "British Journal" by workers in the past. The Supplement is fully illustrated, whilst in the body of the paper are reproduced portraits of veterans of photography and of past and present editors of the "British Journal." The issue is one which every photographer will read with interest.

The Ica Line

Ica Miniature Cameras are distinctive, convenient, practical, and in a class entirely by themselves. They have all the finer adjustments of the larger cameras in compact form. Outside of their convenience in carrying, which is well known, they can be used in almost every field of photographic work in which larger cameras are used. Adaptable for either plates or film packs. There are five types of Ica Miniature Cameras, and a careful comparison will soon prove that for design, materials, workmanship and various minor details they cannot be surpassed. The negatives are sure to be sharp and clear, from which excellent enlargements can be made. Of course, Ica Miniature Cameras are only one of the many different style cameras sold under the trade mark "Ica." If you want any particular kind of a camera, an Ica will suit your purpose the best. The latest Ica catalogue explains in detail all Ica cameras. Send a postal today to the International Photo Sales Corporation, 235 Fifth Avenue, New York City, and a copy will be sent you at once. Tell them you saw their advertisement in CAMERA CRAFT.

A Valuable New Catalogue

George Murphy, Incorporated, 57 East Ninth Street, New York, have recently issued a photographic catalogue, which differs from any which has been previously issued in that it gives the net cash price of every article delivered at your door, so that you know exactly what each article will cost you, transportation paid. If you have not a copy of this catalogue, you should send them your name and address. They will be very glad to mail you a copy on receipt of same. In addition to a full and complete line of photographic goods, they are the American agents for Ross Lenses, Autotype Carbon Tissues, the *British Journal of Photography*, and other well-known articles.

The Hammer Plate

Hammer plates are known for the high standard they have set for many years, and for this reason they are one of the best selling plates on the market today. Among many of their excellent qualities are: purity of chemicals, finest of silver-grain and perfection of emulsion. During the coming hot weather, use Hammer plates, then you won't be bothered with frilling, because their films are tough and quick drying; you will also notice a big improvement in your negatives. If you have not already written for the book called "A Short Talk on Negative Making," be sure to write for a copy to the Hammer Dry Plate Company, Ohio Avenue and Miami Street, St. Louis, Missouri.

An Enormous Lens

A gigantic lens of eleven inches diameter, and aperture f-4.2, has recently been constructed by J. H. Dallmeyer, Limited, at Willesden, for the use of a photographer in Egypt, who wishes to secure life-size pictures in natural perspective. The theoretical design presented considerable difficulties, as the standard of definition in the final picture requires to be of as high an order as in the case of a small lens. Aberrations which increase as the focal length increases have therefore to be remarkably well corrected, no easy task with a lens of this size. After weeks of calculation, the desired form to give the individual lenses was found, and the metal tools were put in hand.

Glass discs of eleven inches diameter are not, as may be imagined, a stock article, and over six months elapsed before the glassmakers were able to provide suitable material. The grinding and polishing fortunately passed off without incident. The overall length is twenty and one-half inches; width, twelve and one-half inches; flange diameter, sixteen inches, and the lens complete scales just over a hundredweight. After the best results had finally been obtained, it was thought that it might be of interest to see what stereoscopic effect was obtained, by reason of the large glass diameter. This diameter, eleven inches, far exceeds the separation of the eyes, and might therefore be expected to produce curious results.

The test object, which had to be very short, on account of the little depth of focus, was a thin plate, painted on each side with alternate bands of black and white. These were so arranged that a black band on the right-hand side corresponded to a white band on the left-hand side.

This object was put up about twenty feet from the lens and photographed in four ways: Plate 1: With the lens covered up, except for a small hole in the middle. Plate 2: With the lens covered up, except for a small hole on the right-hand side. Plate 3: With the lens covered up, except for a small hole on the left-hand side. Plate 4: With the complete lens uncovered.

Plate 1 corresponds to a photograph taken with a lens of the same focal length, but small aperture, and plates 2 and 3 to photographs taken by shifting such a lens five inches to the right and left, respectively. Plate 4 is similar to what one might expect to see in a stereoscope using both these photographs.

In plate 1 there is the end-on view of the place only. In plate 2 there is the end-on view and also the right-hand side. In plate 3 there is the end-on view and also the left-hand side. In plate 4 there is the end-on view and both sides, the whole combined to form one view.

The photographs thus show the ability of a large lens to see round corners. Photographers have often stated that a large lens gives more roundness and modeling in portraiture, and that, perhaps, is explained by this property of seeing round corners.

A Good Camera Stand

The new Korona Folding Studio Stand, made of cherry wood, finished in walnut and aluminum, strong and without any fancy frills, is the stand for the serious amateur or inside worker. The three legs open up simultaneously and won't close again until you want them to. The center post is adjustable from thirty-one to forty-five inches and the tilting top is adjustable for inclination, perfectly rigid, carrying an 8x10 camera as easily as a smaller one. It was shown in their advertisement last month and is made by the Gundlach-Manhattan Optical Company, Rochester, New York.

A Good Vacation Idea

Slip a book of Velox Water Colors into your bag when you start out on your vacation. You are taking your outfit along, to finish your pictures on the spot. Suppose you have a day or two of rain while away. We know of no better way of completing the pleasure of the trip than showing the folks "back home" the realistic beauties of "the place" than reproducing them in color, especially when you are right on the spot.

A Fine Developer

The developer that fits—Nepera Solution. The chemicals in Nepera Solution are carefully compounded in perfect harmony with the chemicals in Velox and similar papers. It produces prints of unusual snap and brilliancy—needs only the addition of water to be ready for use. Do like thousands of other photographers—when you buy developer, specify Nepera Solution. You are then sure of perfect results. When traveling, use Eastman M.-Q. Tubes. Both are sold by your dealer. Prepared by the Eastman Kodak Company, Rochester, New York.

"Helps to Photographers"

This is the title of an excellent and informative booklet that has been very popular with photographers, judging by the requests which have poured in for it. A new edition has been found necessary, and in getting it out the publishers have taken the opportunity of revising the prices for their excellent and complete line of photographic lenses. Any of our readers who may desire one, can secure a copy of this new edition free of charge by writing the Bausch & Lomb Optical Company, 628 St. Paul Street, Rochester, New York. Remember that Bausch & Lomb catalogues are worth having.

Be Sure to Mention the Name

The Central Dry Plate Company have a dainty set of spotting colors that they will send to every reader of CAMERA CRAFT who will address his letter to F. Whipple, care Central Dry Plate Company, St. Louis, Missouri. If you do not mention CAMERA CRAFT and also Mr. Whipple's name—there is great potency in both—you will not get the spotting colors. Also ask for a copy of "Pointers for the Darkroom"; and mention any old name, Lydia Pinkham, for example.

F. & S. Professional Printer

The new F. & S. Professional Printer is made to operate with a foot-treadle, leaving both hands free to adjust paper and negatives. It is fitted with nine Mazda lamps illuminating the printing surface, and the current is only on during exposure. It is made in two sizes. Write to the Folmer & Schwing Division, Rochester, New York, for descriptive circular.

Satista Paper

Have you tried the new Satista Paper, recently introduced by Willis & Clements, of Philadelphia? If not, you should write them for the particulars of their special offer. This is a special grade of paper closely allied to platinotype.

Glazing Cyko Prints

Many photographers engaged in commercial or finishing work have to supply highly glazed Cyko prints, and we are continually receiving requests from photographers for a description of the best methods of obtaining such prints. Most of the troubles encountered in glazing prints are caused by insufficient hardening of the gelatine. In hot weather particularly, the gelatine is apt to become more or less softened in the washing water. A simple way of effectually hardening the prints is to allow them to dry thoroughly after washing, and again soak in water for a few minutes before placing them on the glazing sheets. However, this method wastes time and it is better to do the hardening and fixing in one operation, so that directly the prints are washed they are ready to squeegee to the sheets. We advise the following fixing bath:

Hypo	16 ounces
Water	64 ounces

Dissolve and then add the following hardener:

Water	5 ounces
Sodium sulphite, dried	¾ ounce
Acetic acid No. 8	3 ounces
Alum, powdered	½ ounce

Dissolve in order given.

A glazed surface can be produced with plate glass, ferrotype sheets or celluloid. Plate glass undoubtedly gives the finest surface obtainable. Ferrotype or celluloid gives a high gloss and has the advantage of being unbreakable and light. The ferrotype sheets may be obtained in large sizes glazed on both sides, and the celluloid is supplied in pads about 16x20 inches, usually with one surface glazed and one matte.

To insure easy stripping and good surface, the sheets must be absolutely clean. If glass is used, let the new glasses soak in one part of strong hydrochloric acid to three parts of water for twenty-four hours, then flush well with water, and finally scrub with soap and soda and rinse in clean water; the glasses are then chemically clean. Ferrotype or celluloid sheets do not need a preliminary cleaning; the ordinary operation of waxing or polishing is sufficient. French chalk or a solution of wax may be used for polishing. French chalk is the old-fashioned way and still greatly used; a little is sprinkled on the plate and rubbed over the surface, and a final polish given with a clean duster. The waxing solution is prepared by dissolving twenty grains of beeswax or spermaceti in one ounce of turpentine, a few drops of which are rubbed on with a piece of flannel, and the sheet polished with a piece of soft silk.

The prints may be brought into contact with the glazing sheets under water if desired, but it is not necessary so long as all air bells are expelled by the squeegee. It is advisable to use a squeegee of ample width and of good pliable rubber; either roller or flat form can be used, as each glazing plate is fully covered with a sheet of blotting paper, and squeegee firmly.

The quicker the prints are dried the better they strip. If a lot of work is done, it is best to provide a drying cupboard with warm air circulation, at ninety degrees Fahrenheit; the average time necessary to dry a batch of prints is half an hour—in a well-ventilated workroom, about three hours. When bone dry, the prints should drop off at a touch.

Single-weight papers are sometimes inclined to curl when stripped. This may be overcome by dampening the backs with a mixture of equal parts of wood alcohol and water, and placing face downward between blotting boards under pressure until again dry; they will then remain quite flat. Care must be taken to prevent moisture coming in contact with the face of the prints or the extreme gloss will be destroyed.—*Portrait.*

A "Good-Night" Message

The evening callers were chatting gaily with the Kinterbys when a patter of little feet was heard from the head of the stairs. Mrs. Kinterby raised her hand, warning the others to silence.

"Hush!" she said, softly. "The children are going to deliver their 'good-night' message. It always gives me a feeling of reverence to hear them—they are so much nearer the Creator than we are, and they speak the love that is in their little hearts never so fully as when the dark has come. Listen!"

There was a moment of tense silence. Then—

"Mamma," came the message in a shrill whisper, "Willy found a bedbug!"—*Blade.*

Frank H. Nowell, commercial photographer of Seattle, was in San Francisco recently taking yacht pictures for the Seattle Construction and Dry Dock Company.

. XXI No. 8 AUGUST, 1914 Price, 10 Cent

CAMERA CRAFT

SAN FRANCISCO
CALIFORNIA

—a cable from Ansco Limited and the explanation that followed:

On Saturday, May 19, at 10 A. M., we received the following cable from London:

"Montague Cooper, Taunton, Somerset, England, captures gold medal at British congress. Prints on CYKO PAPER."

"The annual photographic congress of Great Britain—the greatest photographic event in Europe—was held last week, and as usual the CYKO exhibit was the main attraction. The gold medal which goes with the first prize was captured by Mr. Montague Cooper, Taunton, Somerset, England, on the strength of his *three CYKO* prints. The second prize went to Adams, Reading, England; the third to Dührkoop, Germany. CYKO is the prize-winning, the international, and the money-making paper."

Ansco Company

Binghamton, N. Y.

A PAUSE FOR REFRESHMENTS
By JAMES VICTOR FEATHER

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY
FAYETTE J. CLUTE, Editor and Proprietor
CALL BUILDING SAN FRANCISCO CALIFORNIA
VOL. XXI AUGUST, 1914 No. 8

PHOTOGRAPHING "THE COWS AND CHICKENS"

By James Victor Feather

With Illustrations by the Author

"I love the cows and chickens."
"This is the life."

Oliver Lippincott once asked me what I did for a living. "I make pictures of cows and chickens," I said. Oliver gave a splendid impersonation of a bowl of jelly and wanted to know: "What-do-you-mean, cows and chickens?"

TALKING THINGS OVER

WHITE LEGHORN HEN

"Well," I said, "that's just all there is to it. I make pictures of cows and chickens." "What for? Where's there any money in them things?" people ask, and I can only tell them that it's like everything else, the money is there if one only knows how to get it out, and the several ways of getting it out of the cows and chickens and into my pocket have been, and still are, occupying most of my waking moments.

I shall never forget the first picture of a chicken that I made. A fellow had won a prize with one of his birds at the local poultry show; and, proud as Lucifer, he wanted a portrait of it. At that time I knew as much about a chicken as a pig does about its grandfather, but I didn't let Mr. Poultryman know it. I told him I would be around in the afternoon and make the picture. Then I sat myself down in the old rocking chair and thought it over. A chicken! For the life of me, I could not see how I was going to get a picture of a chicken that would look right to an expert chicken fancier. To start with, the darned things were never quiet; how on earth was I ever going to get a picture of a hen when it would not keep its head still? But here, they do keep their heads still—sure they do; they move in jerks,—a quick movement, then a momentary pause to get their bearings, and then another jerk. There was nothing to it: I would snap the shutter as the hen jerked its head and catch it during the pause.

BLACK MINORCA COCK A fine specimen, almost perfect in pose

WHITE LEGHORN ROOSTER A breed difficult to photograph

A SHRILL YELL BRINGS ALL THEIR HEADS UP FOR THE PICTURE

That was the first real step towards success. I told the man frankly that he would have to pose his bird and that I would get the picture when he told me the position was correct. That being satisfactory, I went ahead and made the picture; and, strange to say, it was all right.

Since then I have studied chickens considerably. Knowing nothing about them at the start, I had nothing to unlearn. I attended poultry shows and associated with chicken men; visited a number of large and small poultry plants and read up on the subject. I took several of the papers devoted to the care of chickens and studied the pictures that were used as illustrations therein. I noted that these were of two sorts; one kind being a very amateurish lot that looked not at all like chickens and the other portraying chickens such as all fanciers wish to own but never do. In other words, these last were drawings of ideal birds; or rather, imaginative exaggerations of ideal birds. It seemed to me that there was a field awaiting the man who would make pictures of these birds as they actually are, as one sees them strutting around the farm in all their characteristic pride and beauty. With this idea I started out to make pictures of chickens that would show all the beauty of form and feather that is their natural heritage. These pictures should be right without recourse to retouching. They should show minute detail with the birds standing squarely upon their feet, with the head held high and tail in a proud position. The bird must look proud and happy, there must be no suggestion of enforced posing and the bird must not show in its eye any sign of being on the lookout for a favorable moment to escape. Some contract, that? My method of procedure is to pin a suitable background behind a box or shelf on which I pose the bird, the camera of course being focused. I use a six-

DO NOT LET A SHOW BIRD GET AWAY—They may lose several valuable feathers in the subsequent chase

INTERIOR OF LAYING HOUSE—FIVE HUNDRED CHICKENS AT WORK

foot tube on the shutter and give exposures of one-half second with stop f-16. While working, the bulb hangs over my shoulder in easy reach of my hand. The chicken is stood on the box and allowed to flutter around until he makes up his mind that I am not going to harm him, after which he again takes his usual view of life and the rest is merely a matter of patience. Invariably the bird assumes the pose required without any assistance from me. I talk to him a bit in a soothing, encouraging tone, telling him to hold his head

A PLEASING GROUP I sat on the ground and waited nearly three hours to get this rooster and hens grouped as wanted

WHITE ORPINGTON HEN

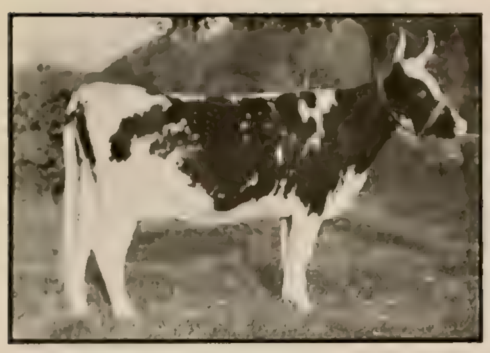
BARRED PLYMOUTH ROCK HEN

up and that sort of thing; and, while I don't for a moment believe he understands my language, I generally have him do just about as I want.

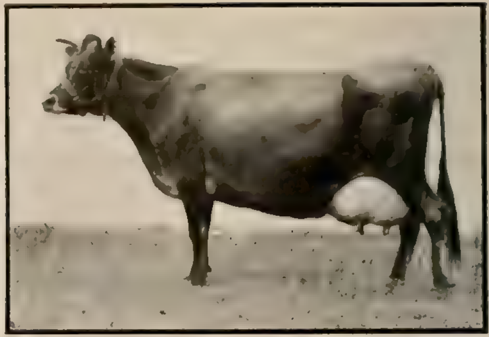
With large groups in the field the matter is different. The only method I have found successful under such circumstances is to let the birds get used to the appearance of the camera, get over their natural fear of strangers, and then, when they have resumed their normal quiet attention to the business of life, I let out a shrill yell and snap the shutter. The instant one lets out this yell, every bird will stand erect, stock still, face to the camera, but for only the fraction of a second. It is important that the exposure be then promptly made, as they cannot be again fooled by the same noise. Here let me once more insist on patience; if one attempts to hurry them, they will flock together in bunches as far from the camera as they can get. If it be necessary to move round at all, let it be done slowly, quietly, going around rather than straight at them. Avoid frightening the birds and take plenty of time.

With groups in houses or pens I use flashlight, fired electrically, simultaneously with the opening of the shutter. This requires even greater patience, as it is imperative that a number of the birds be practically under one's feet, otherwise the picture will look as if all the birds are at the other end of the house. This matter of patience is one of the greatest contributing factors in the success of this class of work. I once sat three hours waiting for a rooster to stand up the way I wanted him.

Photographing dairy cattle is one of the most difficult propositions that confronts the man who has the temerity to boast of his ability to photograph animals. These, perhaps the most useful as well as the most valuable of all domestic mammals, demand careful attention at the hands of the photographer, as he can, through lack of care, so mar the appearance in the finished result as to make the cow or bull appear positively deformed. It can readily be seen that a man is ill advised who attempts to photograph dairy animals without some knowledge of the subject.



A MODERN AYRSHIRE—All thoroughbreds have an air of superiority that the camera must not fail to bring out

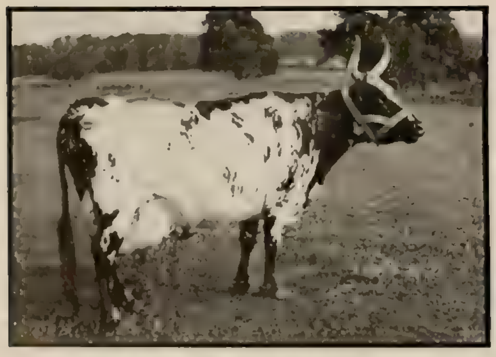


BOSNIAN'S ANNA—The most perfect Jersey cow ever bred. This picture is correct in every possible detail.

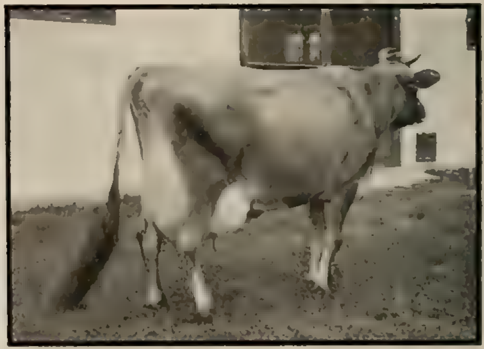
The breeds of cattle which are considered best suited for dairy purposes are the Jerseys, Guernseys, Holstein Fresian, Ayrshires and Dutch Belted. These breeds are all highly developed, extremely nervous, temperamental in the extreme, and require very careful handling. Individuals are very often valued at fabulous sums and pictures of them must show the good points that justify the expenditure of so much money.

There are some fundamental requirements that apply to pictures of all animals that should be made of first consideration in attacking the subject of cattle portraiture. The animal must stand on all four feet, the head must be erect, the back level, the carriage graceful, the eye clear and bright, the ears pointed forward and the tail must set at a proper angle to the body. In addition, each of the several breeds have characteristics of their own that must receive the careful attention of the photographer.

Here again it is well to put in a full stock of patience, as without this cardinal virtue one may as well leave the work alone. It is useless to expect the cow or bull to pose just as wanted without first carefully considering the individual animal. One must approach carefully so as not to arouse suspicion, must remember that the cows are extremely nervous, that they are largely creatures of habit and not accustomed to strangers, and that a camera and a camera man are not features of their every-day intercourse. It is well to have



A GOOD PICTURE, BUT A FAILURE -Bending knee of left rear leg throws right hip up too high. Otherwise perfect in pose



ANOTHER GOOD PICTURE, BUT SPOILED —Enormous milk capacity indicated by large udder and milk veins. Front feet too close together

GET THE ANIMAL RIGHTLY POSED—The engraver will work out the background in making the cut

MADE FOR ADVERTISING PURPOSES—The introduction of a child adds dollars to the value of a picture

the camera all focused on a given spot before the animal is brought out. If possible, have one of the regular attendants, a man who is with them constantly, handle the subject, thus avoiding having to leave the camera. If he is of average intelligence, he can be directed how to move the animal from one's position back of the camera, assuming that one is all ready, shutter set, slide drawn, with subject in place. Pose the animal, if a cow, with the hind quarters closer to the camera than the fore quarters, this giving prominence to the udder and emphasizing the wedge shape that is so diligently sought by all dairymen. The front legs should be straight, feet spaced about ten inches apart and the hind legs should be so placed as to allow a free vision of the udder, while not to be so far apart as to appear distorted. The tail should hang down straight; and, if the animal is a good one, it will reach the ground. If it does not, it is as well to let it hang back of the nearest hind leg, somewhat hiding the deficiency.

The position of the head is of great importance. It should be slightly higher than the highest part of the body and ought to be turned slightly toward the camera, though this last is not always essential. Personally, I prefer to have the head turned just so the two horns are visible; this allows both ears, with part of one eye and all of the other, to be seen. One should be sure that both ears are turned forward, as nothing detracts from the appearance of a picture of any animal so much as having one ear pointing forward and the other back. To accomplish this, one must see that there is no noise in the rear of the animal. They have the faculty of listening to two separate noises at once, and if there be a noise in front as well as in the rear, one is sure to be

FINE SPECIMEN OF BERKSHIRE PIG

MALE ANIMALS MUST HAVE DOMINATING AIR

A SMALL FLOCK OF SHEEP USED TO GRAZE OFF AN ORCHARD

troubled with the persistent pointing of an ear in each direction. When all is ready for making the exposure, have some one stand in the direction you wish to have the animal look and there make a subdued, drawn-out c-o-o. If this is not sufficient to attract the attention, let this assistant wave his arms, being careful not to make any sudden, startling movement or noise liable to frighten the animal and so cause it to alter its position.

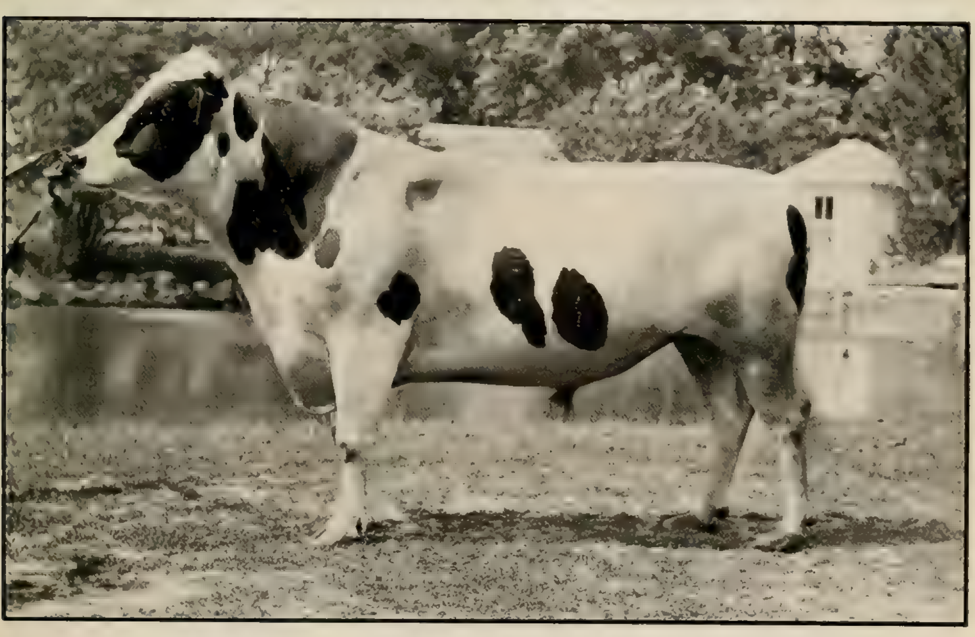
With male animals the desired result and mode of procedure are somewhat different. Here one must emphasize masculinity, which last, when all is said and done, consists mostly of what is known as "front." The camera is moved to a position that will give prominence to the forward part of the animal's anatomy, making the head, neck and forequarters the main part of the picture. The subject should be posed so that he holds his head well up, feet set squarely on the ground, back straight and level, tail hanging in a natural manner, and ears and eyes both forward. If the bull is held on a staff, as all valuable bulls should be, one should see that it does not constitute the main attraction to the animal, getting his attention onto something else so that he can forget the humiliation that he naturally feels at being held in that fashion. The very best thing one can do, and it always insures a majestic pose, is to have a heifer led, at some distance, across his range of vision.

Wherever possible, pose bulls so that they are on a slight eminence and with

SHEEP ARE EASY TO GROUP NICELY AND MAKE PLEASING PICTURES

HEALTHY, THRIFTY BERKSHIRES ON B. F. YOAKUM'S TYWACANA FARMS, LONG ISLAND

the sky as a background. Get the camera down on a level with the lower line of the body, thus securing an effect of size and an appearance of dominance that all dairymen appreciate. Never hurry the subject, as these animals are accustomed to doing things in a leisurely fashion and anything out of the ordinary upsets them. Take plenty of time and be careful not to whisk the focusing cloth around unnecessarily. The best time of day to make pictures of cows is in the morning between nine and ten o'clock and for bulls from seven to nine.



HOLSTEIN-FRESIAN BULL—Head, neck and forequarters are given prominence, back level, feet flat on the ground

The best pictures of cattle in the field are always made in the early evening as soon after the last milking as possible. Some of the finest things I have ever made were done after seven p. m. The picture, used as a frontispiece, of Ayrshire cattle drinking in the pond, was made about six p. m., just as they were on their way to be milked.

Pigs, sheep and goats offer no difficulty to the one who has mastered the art of photographing cattle. Pigs are of two kinds, one bred to produce bacon, the other for ham. The requirements are obvious. Bacon is grown on the flank, ham on the hind quarters. The head is of little use in either case and for that reason is usually made the least important part of the picture. Sheep are grown for the wool they produce and pictures of them must show either the amount of that valuable commodity they are capable of carrying or an ability to produce wool-making offspring. With both pigs and sheep it is well to hold the camera down below the level of the subject's back, the lower the better. The pictures accompanying this article are good subjects for study and are about standard.

HAMS IN THE MAKING—A TAIL PIECE

"I, painting from myself and to myself, know what I do."—*Andrea del Sarto.* To make a symphony, an ode, an epic at the command of kings is the task of genius; it is the privilege of the unchapleted singer to turn aside from labor now and then and make what music he can. Such an one is seldom wise, but always he would be kind and if any comrade ask him: "Sing us of those songs once more," he gladly gathers of his best and makes a writing of them that they may be heard again by those who would listen. He gives them all because he loves them all, and each one is a meaning of himself. Nor would the council of his friends help him in the choosing, for there are as many likings and dislikings as there are folks to hear. He, singing from himself and to himself, is happy. In the repetition he can give no less than all that made him so.—FANNY HODGES NEWMAN.

Know the value of the product of your establishment and have the courage to ask a fair and consistent profit on all work produced. Your customers will then have more respect for you, and you will also have greater respect for yourself.—F. CLARK FULTON.

Some Notes Regarding Lenses

By Leroy Gates, I. P. A. No. 3546

Part II

With Illustrations by the Author

EDITOR'S NOTE.—This is the second and concluding part of the article under the same heading appearing in our last or July issue. As with the first part, we would call attention to the author's commendable differentiation between "depth of field" and the too loosely used "depth of focus," by substituting for the latter a new and equally fitting term, "depth of image." This article contains much of value to the serious worker, and new readers will do well to obtain a copy of our last issue in order to have the matter in its entirety.

HYPERFOCAL DISTANCES: Hyperfocal distances are also instantly indicated by this device. The hyperfocal distance is that at which the lens should be focused in order to secure the greatest obtainable depth of field. With all lenses this distance alters as the diaphragm or stop is changed. Observe diagram No. 3 above where the hyperfocal distance, using stop f-16, is wanted. To find this, the back limit line of f-16 on the pointer scale was made to coincide with the infinity mark on the focus scale; with this adjustment, the pointer indicates and the camera is focused for about twenty-six feet, this being the hyperfocal distance for a seven-inch lens using stop f-16. The scale shows that all objects from thirteen feet to infinity are in focus and this distance, from thirteen feet to infinity, is the depth of field; and, since this includes the greatest range which can be focused with the seven-inch lens at f-16, the focused distance, about twenty-six feet, is the hyperfocal distance.

Having digested these last few paragraphs, the reader will understand that any two lenses of the same focal length, even if they be of different makes, will

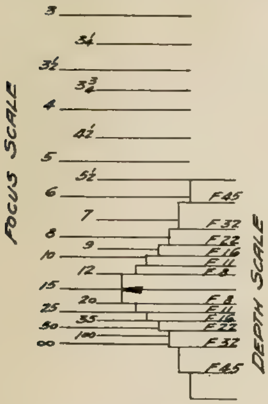


DIAGRAM No. 1

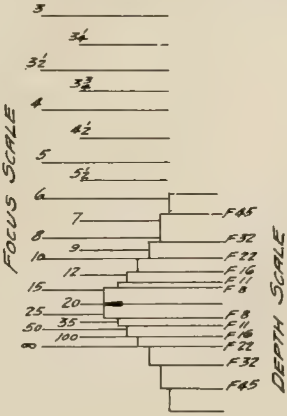


DIAGRAM No 2

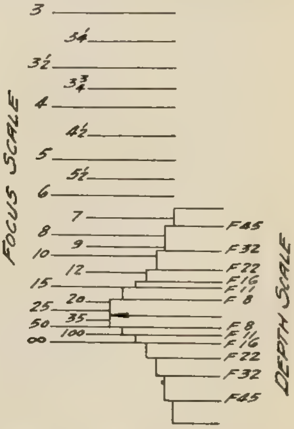


DIAGRAM No 3

be found to each have exactly the same depth of field and depth of focus, as these depend only on the focal length and diaphragm stop. Say they are both f-6.3 lenses; then it would follow that they would have equal depth of field. It is therefore misleading to claim for a certain lens that it has "great depth," etc., because a rapid rectilinear lens at, say, f-11 will have the same depth of field as the finest anastigmat when the latter is stopped down to the same f-11. From the formula it will also be seen that any lens, even the rapid rectilinear, at f-11 will give better depth than even the finest lens at any larger diaphragm stops. Rapid rectilinear lenses are made to work at an aperture as large as f-6, and of course have the same depth of focus as an f-6 anastigmat, yet they do not give the same good definition excepting over a small area in the center of the plate until they are stopped down. Right here is the place to mention that the finest anastigmats, those of extremely high speed such as f-4.5 and faster, will be found to have an extremely limited depth of field, making their general use at that speed undesirable. It is very difficult when photographing moving objects to have the focusing perfect, and when using such wide openings an error in focusing will be very noticeable. Lenses from f-6 to f-6.8 are about as fast as can conveniently be used for general work. Take, for example, a running race at twenty feet distance. Using seven-inch lenses, one working at f-4.5 and the other at f-6.8, the depth of field obtained with the former would be from about seventeen to twenty-five feet from the lens and all the runners would have to be in this small strip of eight feet in width in order to be in focus. With the f-6.8 lens the runners from fifteen to twenty-nine feet distance from the camera would be well defined and this fourteen-foot range might include a much more satisfactory number of runners.

There is one situation in which the f-4.5 or faster lens might be considered as best for general use, and I refer to the miniature cameras using lenses of about three inches focus. With such a lens, one would be able, while photographing the above running race, to render good definition on all objects from fourteen and one-third to thirty-three feet distant; and by good definition for these small cameras is meant good enough to enlarge to 5x7 inches, which means a circle of diffusion of one three-hundredth inch, a very sharp negative indeed.

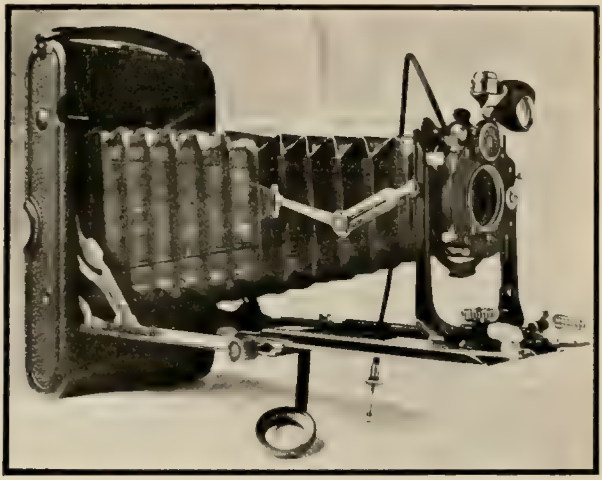
Before leaving the subject of hyperfocal distance, the formula should be given, as it is hardly possible that many of my readers have their focusing scale fitted with this depth of focus device. With miniature cameras have $D = \frac{1}{50}$ or $\frac{1}{300}$ to provide sufficient sharpness for enlarging. The formula: $H = \frac{F^2}{RD} + F$.

In the formula H = hyperfocal distance in inches and the other letters represent the same functions as in the former equation. Trying the formula, using the quantities as in diagram No. 3, we have: $H = \frac{\frac{7^2}{16}}{100} + 7 = \frac{\frac{49}{16}}{100} + 7 = \frac{4900}{16} + 7 = 306 + 7 = 313$ inches = 26 feet.

Whenever hyperfocal distance is thus calculated, the depth of field extends from infinity to a point which is distant from the camera one-half of the hyperfocal distance. Thus in the above example the depth of field extends from infinity to thirteen feet,—one-half of twenty-six feet. Note diagram No. 3 as a check on this result.

Users of roll film cameras will considerably broaden their field by the occasional use of an appropriate formula. For example, it happened that last

THE CHRISTMAS TREE—Taken at distance of thirty inches. 1/25 second at f-8



CAMERA AS USED. As explained, depth of field was calculated to include object using largest allowable stop

Christmas we were very near the top of a barren, rocky mountain. Growing from a slight crevice was what looked like a little evergreen tree only about five inches tall. My wife called it our Christmas tree and wanted a picture of it. We were only carrying a roll film camera, and while it had a long bellows and extension bed, the focusing scale was only graduated to six feet. To make a fair-sized picture of the tree, it was necessary to take it at two and one-half feet. Here is the formula which I luckily remembered: $M = \frac{F^2}{O-F}$. In this, O = distance of object from center of lens, thirty inches; F = equivalent focus of lens, five and one one-hundredth inches; M = extension of lens in front of the infinity or one hundred foot mark on scale. In this case it was $M = \frac{(5.01)^2}{30-5.01} = \frac{25.1}{24.99} = 1.004$ inch. Therefore the pointer was placed one inch in front of the infinity mark on the scale; and, in a dull light at four p. m., using stop f-8, an exposure of one twenty-fifth second was given.

It is obvious that the above formula is the one to employ in calculating the spacing of focusing scales. In making a scale, it should first be drawn on paper. Start with a line for the infinity mark, and then find the position of the other marks by substituting the required "O," or distance of object, in the formula. The result will be the distance from the infinity mark forward to the line in question. For example, if a six-inch lens is used and the twenty-five foot (three hundred inches) mark is wanted: $M = \frac{6^2}{300-6} = \frac{36}{294} = .1225$ inch. Therefore the twenty-five foot mark should be twelve one-hundredth inch from the infinity mark. A little thought and it will be easy to decide what selection of distances will make, for any particular individual, the most generally useful scale. On the mountain trip mentioned above, we collected many strange flowers; and, not being able to preserve them, we decided to photograph them exactly full size. If the lens, as shown by the pointer, be moved out forward from the infinity mark a distance equal to its equivalent focus, the camera is ready for full-size pictures. The only problem is to then get the object at the right distance from the camera to be in focus. This is best done when the camera is empty by placing a ground glass in place of the film and moving the camera nearer or farther from the object until the focus is good. Measure the distance from the lens to the object and put it on record for use when needed. So employed, the lens should be stopped down to get the necessary depth of field. If one must take the full-size picture without having time to first try a ground glass, it will usually be found safe to place the object at a distance in front of the diaphragm equal to twice the equivalent focus of the lens, the distance which we have been representing by the letter F.

Following is a formula which will give the nearest and the farthest distances that will be in focus so that the proper diaphragm may be selected with exactness. This formula will give the same results, the depth of field, as the device illustrated in diagrams Nos. 1, 2 and 3. S = distance, in inches, for which focusing pointer is set. The other quantities are now familiar.

The formula is $P = \dfrac{S}{1 \pm DR\dfrac{(S-F)}{F^2}}$

This is really two equations, one with a plus and one with a minus sign. Using the former equation gives the nearest focus and the latter equation the farthest distance in focus, in inches; dividing this last by twelve to get feet. In the case of the flowers taken full size, as mentioned, the two equations are:

$$P = \frac{10.02}{1+\frac{1}{100}\ 22\ \left(\frac{10.02-5.01}{5.01^2}\right)} = \frac{10.02}{1+.0439} = 9.6 \text{ inches.}$$

$$P = \frac{10.02}{1-\frac{1}{100}\times 22\ \left(\frac{10.02-5.01}{5.01^2}\right)} = \frac{10.02}{1-.0439} = 10.48 \text{ inches.}$$

Showing that the depth of field extended from 9.6 to 10.48 inches. As stated, this equation gives the exact depth of field and the results also agree with those indicated by the device described in connection with the banquet photograph. The equation is correct for photographs taken at any range, while the device mentioned is not absolutely reliable at distances closer than about three feet. The device, however, is also safe to use because in any case where it is in error the depth of field is greater than indicated. For a little practice use the formula to check up the former examples showing depth of field.

If one's diaphragm stops are marked in the U. S. system, it will not be difficult to employ the formulas if one will use the little depth of image table given earlier in this article, one that compares the two stop systems. If one wishes to use a U. S. 8 stop number in a formula, he must be sure to substitute its equivalent number in the F system.

Mr. Rice's article in the June Camera Craft, regarding the use of small cameras, was very interesting. He represents a problem, page 275, to which our little formula will add much light. The problem: Does the little camera with a three-inch lens have a greater depth of field than a larger camera with a seven-inch lens, both used at f-6.8? Exactly what difference in depth will there be? We will use the last formula. The small picture must stand enlargement about 2.95 times (diameters) in order to be 5x7 in size; therefore, if in the 5x7 print, D, or diameter of circle of definition, be one one-hundredth inch, we must

MORENCI, ARIZONA, WATER WORKS—Hyperfocal distance formula gives, with nearest object three feet, farthest infinity, focus as six feet and stop as f-180. Focal length of lens, 10.56 inches. Solve for R=181.4.

use for D in the small negative one two hundred and ninety-fifth inch in order to arrive at an enlargement of equal fineness, supposing no loss due to granular emulsion, etc.

For the small camera, object set at three and one-half feet or forty-two inches:

$$P = \frac{42}{1 \pm \frac{1}{295} \; 6.8 \; \frac{(42-3)}{(9)}} = \frac{42}{1 \mp .0999} = 38.2$$

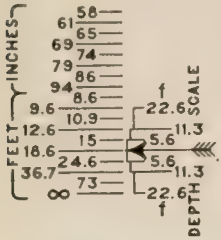
and 46.7 inches as nearest and farthest points in focus, or a total depth of field of eight and one-half inches. For the large camera:

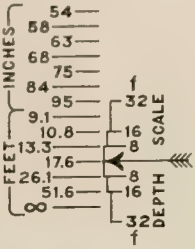
$$P = \frac{42}{1 \pm \frac{1}{100} \; 6.8 \; \frac{(42-7)}{(49)}} = \frac{42}{1 \mp .0486} = 40.1$$

and 44.1 inches as nearest and farthest points in focus, or a depth of field of four inches.

This shows the depth of field to be over twice as great with the small lens. For practice, calculate the depth of field of the small lens used at f-4.5 and one will find that the depth at that opening is still greater than that of the larger lens at f-6.8. Further calculation will show that the seven-inch lens must be stopped down to f-14 before its depth of field will equal that of the small lens at f-4.5, and in considering this surprising fact it must be remembered that we are exacting better definition from the small lens in order to permit of future enlarging.

Since the above was written, there has appeared in CAMERA CRAFT a very similar method of arranging a "depth of field indicator" the only difference lying in the fact that the distance marks on the focusing scale are evenly spaced and of such selected distances as to correspond or coincide with the marks on the pointer section. This makes the reading of the scale somewhat easier, but has the disadvantage of showing an odd assortment of distances, which distances are not so quickly or easily judged; also, it is only practicable to show one series of stops.





In the two examples shown in diagrams 5 and 6, the F system of stops is again used. Diagram 5 illustrates the f-5.6 series and diagram 6 the f-8 series for a seven-inch lens. Both series of stops, the f-8 series and the f-5.6 series, might be indicated simultaneously on the same focusing scale, but so many figures would be too crowded. While it is an interesting and ingenious deviation well worth knowing, I personally prefer the distances to be represented in round numbers; also to have both series of stops on the "depth scale." To the author this seems to give greater latitude. If a limit line on the "depth scale" falls between two marks on the focusing scale, I can estimate or interpolate the reading at least as correctly as I can estimate the actual distances to the objects themselves.

The reader will notice that the symbol ∞ is used on all scales to represent the point at which distant objects are in focus. This should be understood, since so many of the imported cameras use this symbol.

ON CANADIAN WATERS By ARTHUR ALAIN

The Part Personality Plays

By Geo. D. Jopson

With Illustrations by the Author

In considering the element of the personality, both in the photographer and in his patrons, it is only proper that we should select the reception room for our stage; and, add to our comments by reviewing a few personal experiences therein in order to draw such deductions as seem demanded thereby.

If a lady of some social standing is in one's reception room and the woman who does her washing should come in on business, one should not, for one moment, think he is going to strengthen his position in the mind of the first mentioned lady by dealing in a slighting manner with the latter. It is taken for granted that the lady of social standing is well bred and consequently refined. Owing to the lower social standing of the washwoman, she may perhaps not possess the same refined ways, as she does not mingle socially with that particular set in which manners are polished to a luster. She is honest and not ashamed to toil for her living; she may perhaps be a diamond in the rough. She has, without doubt, come to you for the same purpose as did her employer; and, by treating her in a snobbish manner, the customer of more refinement at once perceives that you are doing so for effect. The result is that your personality, in her opinion, in her estimation, is very apt to depreciate in value, inspiring a feeling dangerously near the freezing point. While she may show no outward signs, and while one may hardly expect to read what passes in the minds of his patrons, he should seek to avoid any suspicion of being insincere.

Possibly one is getting a twenty-dollar order from the first lady and only a two-dollar one from the second. In doing so he is accepting a very small part of what the first patron is well able to pay, while perhaps accepting from the second nearly her all. She, the lady of the washtubs, may be spending that which she can ill afford for luxuries, doing so in order to give some pleasure to distant friends or relations, possibly her own children. If we but stop and think what the Great Teacher had to say of the widow and her mite, we find the thought quite applicable here. Is not one receiving more from this poor woman than from the other spending from her abundance? By treating the humbler customer with the same consideration that is bestowed upon the other, we not only add a ray of sunshine to her humble life, but we make it easier for her to part with her hard-earned dollars, dollars that have perhaps cost not a few sacrifices on her part. By showing consideration to all we strengthen our character and add to our personality.

Our treatment, equitable or otherwise, of our patrons in the presence of others, influences the opinions formed either for or against us. Last December, when we were all in our rush, I had an annoying experience, one similar, no doubt, to those others have had. A customer, one who never calls without bringing her two daughters and a retinue of friends, came for a sitting and requested that the work be delivered upon a certain date. I advised her that if she called and accepted the proofs on the following day, the work would be finished upon the desired date, otherwise I would be unable to have the finished pictures ready for her. The following day, Thursday, the daughters called for the proofs, but they were not returned until the following Tuesday. On the day she had requested the pictures finished she called with her usual retinue of daughters and friends, and, it being the holiday rush season, there were quite naturally other customers in the reception room. They took possession of what empty chairs there were, one pouncing into a chair that a lady had but temporarily vacated. Actual customers, two or three of whom followed, were compelled to stand. As soon as I had finished with a customer under the skylight, I stepped into the room and informed this lady that her pictures were not finished, but would be on a certain date. "You had no business to promise me the pictures today and not have them ready. You know when you took those pictures you promised them today. (With a very staccato accent) Now I want to know why they are not ready?"

"Why, Mrs. S———! Don't you remember that when I took the pictures I said that if you accepted the proofs on Thursday I would have them today? You did not do so until Tuesday, five days later."

"That has nothing to do with it. I told you I wanted those pictures today. I demand to know why I can't have them."

I had made all necessary or possible explanation, and so, without betraying my annoyance, I turned to the next customer. Mrs. S——— glared at me for a minute or two, and then interrupted with: "I will come in just once more for those pictures, and if they are not finished I will know the reason why;" she and her retinue flouncing out. The customers present suggested their relief by their actions, and one remarked: "I would not have stood that for one minute—I could not."

I could have quarreled with Mrs. S——— quite easily, but would it have strengthened my other customers' opinion of my personality? I treated her kindly, so much so that she did not call for the pictures—but her retinue, in full force, did. It is human nature not to care to visit the scene of one's foolishness too soon. It does not pay to quarrel with a customer, especially when others are present. It is much better to admit that the customer is in the right; in fact, it is business policy to treat the customer with more than due consideration. When one is so openly in the wrong as was this lady, it is wise to say nothing and let her have her spasm, she will feel all the more foolish for so doing after she comes to her senses. And, after the sting has worn away, one will feel more satisfied with himself, despite the bitterness of the pill swallowed.

Supporting the advisability of assuming that a customer can never be wrong, the following incident will illustrate its practicability. A lady had some post cards made. Yes, I make 'em—for a price. I am not foolish enough to give them away, practically, as so many of our brethren do. Just to digress for a moment: I charge a fair money-making or living price and put in the quality. One should figure the time required from the taking of the order to the finished product, add for rent, heat, light, insurance, wear and tear, and the salary he feels he should earn. Getting right down to actual figures, one will find that post cards at one dollar and fifty cents per dozen are not great money makers. In delivering an order, I always count the prints in front of the customers, and did so in delivering these cards. The next day the lady's husband came in with: "How many pictures do you make for a dozen?" "Twelve." "Then how is it you gave my wife only nine?" Did I come back with an argument? Oh, no! I was not going to argue for the sake of three cards. I knew I had delivered the twelve, but I did not know how many friends she may have met on the street and shown the cards to with the possible result that the three may have been purloined without her knowledge. I made an apology, thanked him for calling my attention to it, and promised him the remaining three the next day. He started to leave, then, turning back, asked: "Can you make six more while you are at it?" "Yes, Mr. V———, I shall be very glad to." "Well, now I don't think the twelve will go around, so make an extra half dozen while you are at it."

As a final chapter of that episode, when the husband called for the pictures the following day, he wanted to pay me for the three he claimed were short, but I would not accept. My attitude had caused him to think, and possibly ask his wife some questions, perhaps disclosing another side of the question. Had I declared myself right and my customer wrong, this man would never have seen it other than in his own way.

In transacting business with a customer, he or she is made much more satisfied by receiving something to show that a business transaction has been consummated between you. I have had prepared pads of one hundred tickets each, alternating white and yellow, reading as follows:

George D. Jopson *Maker of Quality Photographs*

SAUGERTIES, N. Y.

A deposit required on all negatives, or MUST BE PAID before proofs are shown. No portion of work delivered unless full amount of order is paid. Do not ask for any other terms, for they will not be given.

Number *Date*

Name

Address

Style *Quantity*

Price *Paid* *Due*

Present this check when pictures are called for.

I fill in the white one and the yellow takes the carbon copy, this last being given to the customer with the request that he read it to see if there is any error. If, through fault of memory on his part, he questions some point upon receipt of the pictures, I have only to refer him to the ticket he holds. It often saves the day and prevents unpleasant feelings.

It is well for the photographer to have certain business regulations and live up to them. While customers should be treated as in the right in certain matters, they should also understand that they are not running your business. You must have confidence in your own business ability if your customer is to have confidence in you. If it is your policy to take a deposit on all orders, live up to it. If you decide not to show proofs until that deposit is paid, live up to it. If you elect not to deliver an order or any portion of it until the full amount is paid, live up to it.

I read, with much interest and profit, Brother Siebeneck's article, "The Reception Room," in the January issue. The subject was handled in a clear, concise and masterly manner, and as my preparatory notes included some thoughts covered in his article, I have been forced to deviate somewhat. Lest we forget his good suggestions, let us turn back to the January number and again read his article. If a new subscriber I would advise that you procure a copy; it is worth the price—and a great deal more.

Personally, I shall have to take exception to Brother Siebeneck's closing paragraph. Remember, I say personally. Articles such as his are the personal ideas of the writer—ideas that fit his particular business and patronage. They are given to stimulate us, to induce us to study our own conditions, applying the suggestions made if thought of benefit to our own particular business.

For a number of years I agreed with Brother Siebeneck's ideas on the deposit sign question. After being in business in this town for two years, I found it advisable to introduce one. Why? My predecessor had been dominated by his customers. When I requested a deposit it was nothing unusual to have an argument result. Since introducing the deposit sign, this unpleasant feature is practically eliminated. If you can successfully get along without it, do so. If it will save unpleasant feelings between your customer and yourself, use it. My sign simply reads: "A deposit required on all orders." I have a decided dislike to my predecessor's: "How much would you care to pay down on your pictures." Set your own price. I find that one-third, with a minimum of one dollar, satisfactory. "You may pay so much today and the balance when you receive the pictures," spoken in a manner that suggests the granting of a privilege or that it is their privilege to transact business in that manner will never prove offensive. It is definite and businesslike. You have your price, and, as a business man, it is your privilege—yes, your duty—to ask it.

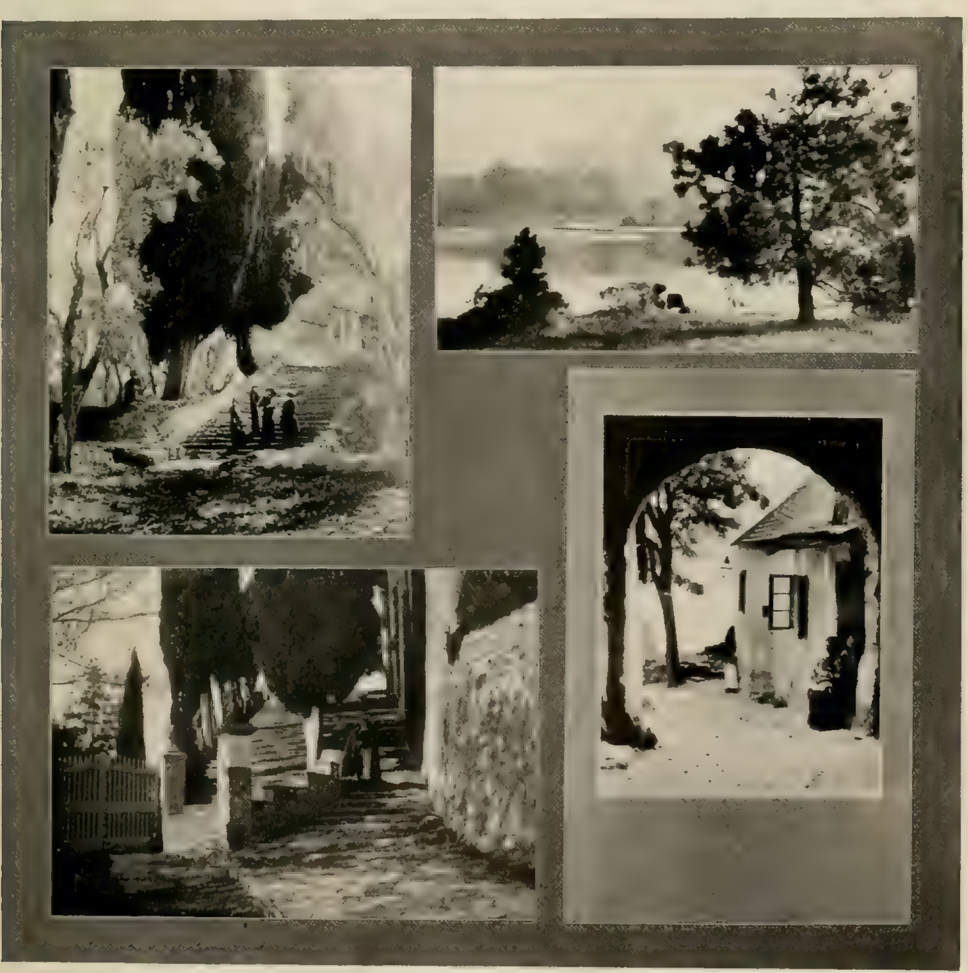
Let your personality in the reception room be such that your customer will feel you are running your business exclusively for their benefit, but let it be done with such business dignity that they will not expect to transact business with you other than according to your established business rules.

Some Prize-Winning Pictures

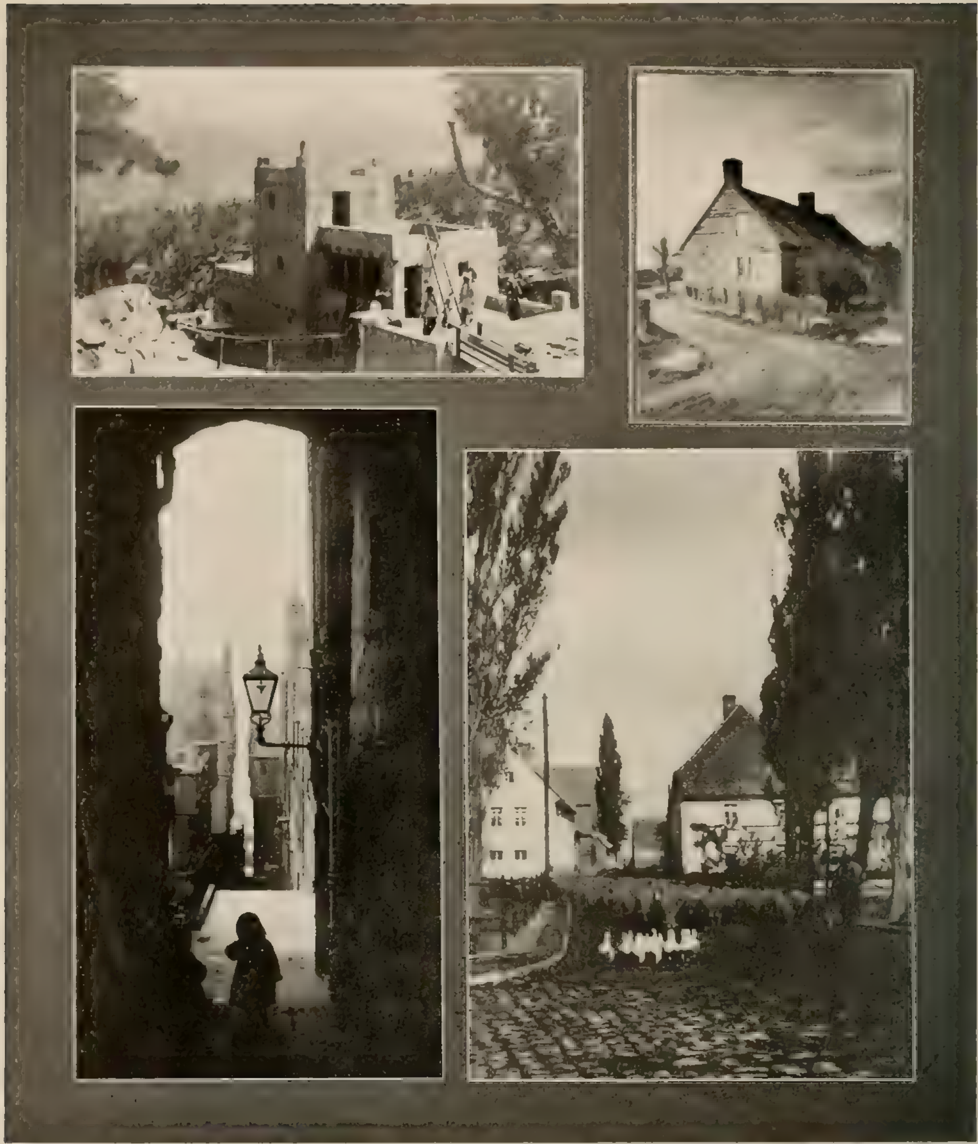
The pictures reproduced herewith are the prize winners in the Amateur Photographic Contest that recently closed at the Country Life Permanent Exposition, Grand Central Terminal, New York City. The contest was open for two months to all amateurs, and hundreds of excellent framed pictures were received.

The first prize, fifty dollars, was won by Alma W. Ward, for a most wonderful photograph of "Hadrian's Villa," near Rome. The composition of the picture is most artistic, many good judges, without knowing that it had been awarded first prize, commented with amazement upon its artistic quality.

The second prize of thirty-five dollars in cash was awarded Lewis Simpson for "Ancient Gateway"; the third prize, fifteen dollars, by Jennie J. Pfeiffer, for a composition called "Near Fiesole." The fourth prize, fifteen dollars' worth of growing plants, was won by Haswell C. Jeffery for "A Child's



"HADRIAN'S VILLA," By ALMA WARD "A CHILD'S DREAM,"By HASWELL C. JEFFERY
"NEAR FIESOLE," By JENNIE J. PFEIFFER "ANCIENT GATEWAY," By L. SIMPSON



"INDIANS AT THE CLIFF DWELLINGS," By L. H. FROHMAN
"THE OLD HOMESTEAD," By L. E. WRIGHT
"A CLOSE AT EDINBURGH," By JENNIE J. PFEIFFER
"ON A THURINGIAN FARM," By JENNIE J. PFEIFFER

Dream," a view of Central Park with a hazy group of buildings in the distance. The fifth and sixth prizes, consisting of seeds, bulbs and rustic furniture, valued at eighteen dollars in total, were both taken by Jennie Pfeiffer, for pictures entitled, respectively, "On a Thuringian Farm" and "A Close at Edinburgh." Honorable mention was made of two other handsome compositions by L. H. Frohman and L. B. Wright, representing respectively "Indians at the Cliff Dwellings" and "The Old Homestead." The judges were Alfred Steiglitz, Paul B. Haviland and G. Chamberlain.

The Theory of Color

By Raymond A. Cogswell

EDITOR'S NOTE: *This article is one of a series of five, the first of which appeared in our June issue, the remaining three to deal in turn with: The Quality of Light, The Problem of Exposure, and Exposure and Interpretation. However, each is separate and distinct and not dependent upon any other. Mr. Cogswell hopes to awaken the average photographer's interest in the science that is just outside of his observation and reading. He himself has found the vistas that may be opened out from photography to be very interesting; in fact, he suggested to Hamilton Wright Mabie, some years ago, a plan whereby the camera could be made to share with the piano-player its value as a means of acquiring culture by those whose ambition and curiosity—and love of beauty—were sufficient to carry them forward, and Mr. Mabie elaborated this idea in one of his later articles.*

In a brief article it is impossible to present all the data required to develop a consistent theory of color. The endeavor here will be merely to outline the theory of Ewald Hering, the one today most generally held as best harmonizing with the known facts of color and color vision, and to show, suggestively at least, why the methods of orthochromatic photography so often fail to render color values as the eye sees them. The reader should also understand that the writer purposely avoids any mention of the different behaviors of color sensation due to the media through which light passes before reaching the eye, giving us reflected, transmitted, refracted and polarized light, the phenomena of defraction, interference, etc. These are matters outside the immediate subject, color.

First, let us consider a few definitions. Color is a peculiar quality of light that is inherent in physiological perception. Light in itself has no color. It has, like heat and sound, certain rates of vibration which are capable of producing definite color sensations upon the sensitive nerves that are responsible for sight, but considered merely as light it is only an ether vibration, the color existing only in the eye, The fundamental essence of any color is called its "hue." The blue of the sky is its hue, or its "blueness." The white of snow is its hue or its "whiteness." When any color has as much of its hue as is possible it is said to be saturated with that hue, or to have the maximum intensity of that color. In Colorado, for example, the clear sky near midday is probably a nearly saturated blue. In Ohio it is usually degraded with more or less gray, so that while it may be even "brighter" in the popular sense, it is not nearly so blue. Complementary colors are those which, when mixed in equal proportions of quantity and saturation, will produce a true gray. For instance, red and green produces gray. (If the green has no yellow in it, for most of the commonly accepted greens are really yellow greens.) The terms tone, shade, etc., are inexact because they do not express the components of the color described and moreover are not everywhere used to connote the same idea.

In the Hering theory there are considered to be three primary color pairs of complementary colors: white and black, yellow and blue, and red and green, and all other colors are considered to result from the mixing of these primaries in varying proportions. The actual hue of each of these colors is a variable thing and is most conveniently expressed as a "sensation," *i. e.,* as light affecting a certain definite range of color vision. This range can be measured in wave lengths, the dividing line seems to be at about five hundred. For, example, light which has wave lengths under five hundred may be either yellow, red or white.

The black and white color pair, the primitive light sensation, being the first to appear in the evolutionary development of the visual apparatus. It is a sensation of intensity only, taking no account of wave length except in regard to the intensity of its effect on the retina. White and black are true colors when considered in connection with other colors (such as blue, yellow, red and green), but to a person totally color-blind, they are not colors at all. In total color-blindness intensities of light only are observed; consequently, no color comparisons are possible. For example, consider a board painted a light gray on one half and a certain partially saturated hue of yellow on the other. Let us make the yellow as deep a color of its kind as the gray is in the black-white scale. It will be seen at once that the only difference between the gray and the yellow is one of color; and that, if the color is destroyed in the yellow, it will appear as a gray of the same depth (or intensity in terms of black and white) as the original gray, the two being indistinguishable. It is thus that a totally color-blind person would view it. A practical demonstration for a person of normal vision would be given by photographing the board with a yellow color screen and a yellow sensitive plate; the yellow and gray would be identical in the resulting picture because the camera process is "color-blind."

From the foregoing it follows that no particular wave lengths are associated with the white-black color scale. Whatever chemical process takes place in the retinal purple to produce white, the reversal of this process produces black, or darkness. Black is not, then, absence of light; absence of light is blindness. It is rather a stimulation set up in the opposite direction after that generated by white. Such conception is by no means absurd; an analogy may be found in the case of a balanced chemical reaction. For example, it is possible to produce a photographic plate so sensitized (using Ag and Cu) that either an increase or a decrease of the light falling upon it will produce an image. The retinal of the eye that is sensitive to white and black is the most extensive of all. In fact, the mechanism for seeing in dim light (so-called "rods" in the retinal coating), is sensitive only to black and white. It is only in stronger lights when the "comes" become active that any color is perceived, although the same wave lengths may strike the eye.

The color pair next appearing in the evolutionary scale was the blue-yellow combination. What caused this specialization of function is obscure; obviously some advantage to the organism must have accrued from it, otherwise it would not have been seized upon and developed. It is superimposed upon the black-white area in the eye, but is not so extensive, nor is the extreme contrast between the saturated colors so great. As in the case of black-white, the blue sensation is the opposite of the yellow, and begins with wave lengths shorter than five hundred, those longer than five hundred excite the yellow sensation; at about five hundred a gray and white sensation results (depending on the intensity of the light), consideration being confined to the blue-yellow combination. The most common form of color-blindness is the red-green, a person afflicted in this manner being limited in his color vision to the black-white and blue-yellow combinations. For example, to such a person an orange pigment would show only the yellow component, the red being replaced by black, giving a resultant brown, as may be easily verified by examining an orange under the light of a mercury arc, which is "color-blind" to red.

The third color pair, the red-green, was the last to be developed in the evolution of the human eye, and with this combination only is complete polychromatic vision possible. The contrast between green and red is very slight, and its retinal area is still more restricted than that of the blue-yellow. To the red-green color-blind person these colors appear as shades of gray; the same general phenomena applying to red-green as noted for the blue-yellow.

The three-color-photographic processes are all compromises using three color primary to the process. The primaries commonly used are an orange red, a yellow green, and a blue violet. White is produced by mingling of these primaries in equal portions and intensities. The white effect then is produced through each one of the colors neutralizing component complementaries of the others, giving a resulting gray: the yellow green, the green part of the yellow green primary neutralizes the red of the orange red, while the yellow neutralizes the blue of the blue-violet, etc. It is for this reason that the white in color photography is never rendered in its true brilliance: it is always degraded to a deeper gray. Colors other than white are produced by unequal mixtures of the three components. The blue of the sky in an autochrome is principally blue violet with enough of the yellow green to neutralize the red of the blue violet (which is small in amount). It can be readily seen that this method of getting blue cannot give a saturated hue, but must give one degraded by a certain amount of black. It is for this reason that the bluest sky always takes on a certain dead, gray, or heavy appearance in an autochrom. In the two-color kinemacolor the blue comes to be practically gray. In the same way, the yellow colors in autochromes are rendered weakly, for the reason that the yellow must be produced by the combination of an orange red and a yellow green. The red component of the orange red neutralizes the green component of the yellow green to produce a gray, leaving the yellow alone of each of the two to produce the yellow effect. It will be seen at once that the yellow can not be a saturated hue because it is mixed with the gray from the red-green neutralization, so that the resulting yellow, really a mixture of yellow and gray, appears pale. This explanation is not a strictly scientific one, but yet forms a consistent short cut. To explain the matter scientifically would require more space than is available in this article.

Color mixing apparatus consists of a whirling disc arranged to hold detachable discs of colored paper, and driven by a small electric motor. These discs are so arranged that a sector of any width can be shown so that the whirling disc can be built over with sectors of various colors and amounts as desired. Standard color discs of the six primaries are provided for making comparisons with the colors to be tested. When the disc is whirled by the motor the color of all the sectors are blended on account of the persistence of vision. The aim is to arrange sectors of known colors that will blend to match the unknown color. Then these sectors are measured and the results tabulated give the primary components of the unknown color. With this device it is found that a disc of true red of a saturated hue will produce with a complementary saturated green a neutral gray. Also a blue and an orange that are complementary, blend to make gray. The mixing of pigments is not an accurate method of mixing colors. Pigments in the first place are seldom saturated primaries so that error is introduced on that account; in the second place, the mixing of the particles may alter the surface texture, so that the absorbed light is quite different; third, the popular notions of color is too inaccurate to leave the matter merely to description. Blue and yellow mixed make green in pigments, the blue usually chosen is not a saturated hue, and is not far enough into the violet end of the spectrum, so also the yellow is too much of a yellow green, consequently the effect will be a preponderantly green color, green in hue but away below saturation. If an orange is chosen as the complementary of the blue, or if the blue go toward the violet, using a lemon yellow for the complementary, the result will be gray.

Colors commonly called white are in reality gray, or some other hue in which white predominates, mixed with a small amount of gray, and the other hue, e. g. white lead, as a mixture of white with a little black and yellow. The snow on a clear day is white, with a little black and blue. From definition, a pure white is possible only with the strongest light known, which is direct noonday sunlight with the minimum atmospheric absorption. This is true, because the color white is a sensation of the greatest light intensity. For practical purposes it is sufficient to consider snow, paper, white lead, etc., as white, but for exact color determinations the standard of the whitest known substance is the best that can be had. It is a paper coated with a carefully calculated mixture of several white pigments. A few hours of laboratory work on color mixing would be quite worth while to the photographer, whether he be a worker in color or in monochrome. The results obtained might shock some of his accepted notions of color, but they would certainly lead to a clarification of his ideas, and thus to a better handling of the technology of color.

"The older I grow the less I care to shoot anything except 'varmints.' I do not think it at all advisable that the gun should be given up; but there is too much shooting, and if we can only get the camera in place of the gun, and have the sportsman sunk somewhat in the naturalist and lover of wild things, the next generation will see an immense change for the better in the life of the woods."—THEODORE ROOSEVELT.

The Post Card Studio

By Edward R. Trabold

With Illustrations by the Author

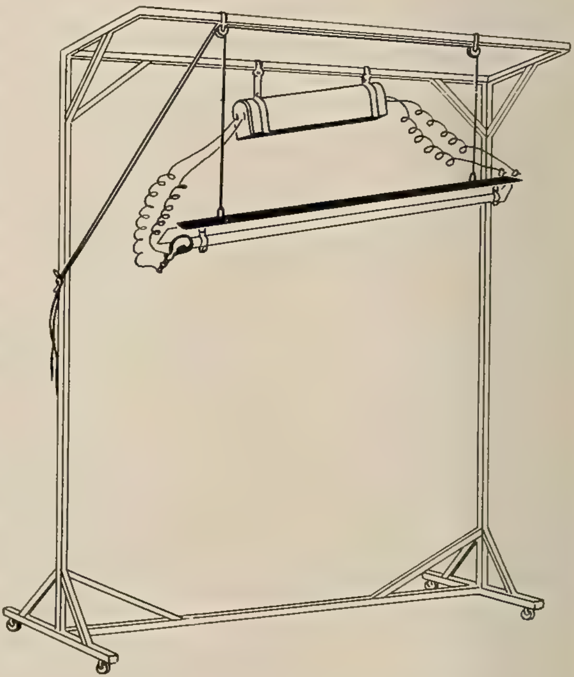
Perhaps, because that which is novel makes a strong appeal to the majority, the studio that turns out novelty post cards within twenty minutes, day or night, generally makes a success. For successful it surely is, if run properly. Of course, some post card studios in our larger cities have been doing this class of work for the past few years, but to the residents of our smaller cities and large towns, the work is, as yet, much of a novelty. I shall, in as simple a manner as possible, try to explain how such a studio should be run in order to be most successful; such advice being based on my own experience. Any one with a fair knowledge of photography, as well as the experienced professional, will, I believe, be able to grasp the essentials from studying the accompanying diagram and photographs, and giving careful attention to the details. Such are my hopes.

Two people are really necessary for such a studio; one in the front, doing duty as receptionist and operator, while the other remains in the dark-room developing and finishing. A good location is most desirable, and one should, if possible, be on one of the main streets and positively on the ground floor. If an empty store with at least one good display window is available, hire it at once and proceed to remodel it to meet the necessary requirements. A typical one that I secured was about fifty feet in depth, which gave me a good draw; but, if one is using a short-focus lens, while one's work will not be so good, the depth of the studio will not be so important. Finding need of a reception

A STYLE NOT HARD TO PRODUCE BY DOUBLE PRINTING AND A MASK room, I built a framework reaching from floor to ceiling across the store, about ten feet back from the street door. This I covered with dark green burlap, leaving a wide opening in the center, over which I hung portieres to match. When a sitting was being made, these last were drawn together, thus screening the customer from curious eyes. By placing a small art square of green on the floor and arranging a few pieces of mission furniture, I had a reception room that, although small, was neat and effective.

My dressing room I accomplished in a similar manner, using burlap and portieres across a corner in which a window was located. There I hung a large mirror to keep company with a chair and a small table equipped with necessary toilet articles. The dark-room I shall describe in another paragraph. My next step was to arrange my equipment, consisting of one dark and one light 8x10 background, an ordinary post card camera, fitted with an f-4.5 Zeiss Tessar lens, a dozen ordinary view holders to be kept in the rack on the side of the camera; a reflector; side and head screens; and various novelties for posing, such as aeroplane, fireplace, large crescent moon, an Easter egg, etc.

My Cooper-Hewitt outfit consisted of their Type F tube for alternating current circuits auxiliary, red reflector holder, tube and shifter and sixty-cycle light. This I had wired and hung on a movable frame, so arranged that by merely shifting the position of the lamp I was able to secure a variety of fancy lightings. The accompanying sketch shows the construction and manner of suspending the lamp tube on pulleys so that it can be raised or lowered according to the desire of the operator, rendering the making of different lightings quite easy.



At the side of the room there was a large iron sink, around which I built a wooden framework covered close with Beaver board, fitting the two opposite ends with wooden doors. Through both of these doors I cut a hole just large enough to take a box of a size to admit a 5x7 plate holder. Each box had two doors of its own, one opening into the operating room and the other into the dark-room. The whole affair was, of course, absolutely light-tight. On a shelf built along the same side as the sink, I placed four fixing boxes, post card size, procurable at any supply store. The first, which I used for developing, was fitted with a cover, the second was used for the hypo, the third contained a saturated solution of carbonate of potassium, and the fourth did duty as a washing tank. On this shelf I also kept two ordinary soap boxes,

JUST EVERY-DAY SAMPLES OF THE REGULAR OUTPUT OF THE STUDIO

neatly lined with oil-cloth; one of these containing the fixing bath for the post cards and the other used for washing them.

On the opposite side of this room I placed a large table on which I kept a generous supply of lintless blotters, some chamois or old linen, and the print roller. This table also held a one-burner gas plate, on which I kept a double weight ferreotype tin always slightly warm when busy. Its use I shall explain further on. My printing machine, an Ansco Amateur, which I found most efficient, had its place next to the table. This dark-room was fitted for both gas and electricity, as was the entire studio.

As soon as a plate was exposed by the operator, the holder was put into the box in the first door, from where I immediately took it, removed it from the holder and placed it in the developing tank. The tank was covered, given a good shaking and left for three or four minutes. This is ample time for developing if one uses the Hammer post card plates. Next to the fixing bath for one minute, or possibly two if not rushed, a rinse in running water and a drop into the tank containing the carbonate of potassium, where two and one-half minutes were allowed. The film side of the plate was blotted off with a lintless blotter after which it was wiped dry, including the glass side, with chamois or a piece of old linen, after which the film is so hard that it will resist the finger nail. Often a white discoloration will appear, caused by the hypo crystallizing out, but this makes no difference in the finishing. The carbonate of potassium sometimes causes the film to peel from the plate after it has stood a few hours.

The next step is the printing of the cards, after which they are developed, fixed for two minutes in their own hypo bath, and rinsed in clean water. Finally they are laid on the table, dried somewhat with the blotters and roller, and then laid on the warm ferreotype tin, where they finish drying in a very short time. This finishes the work and the cards are slipped into an envelope and placed in the box in the other door at the same time with reloaded plate-holders for the operator. These "dark boxes" save opening the door of the dark-room, and there is no danger of light entering to interfere with the finishing of the work. The entire process, while giving very satisfactory results, requires less than twenty minutes and this speed may be kept up all day. When there is a rush, time may be saved by printing while new plates are developing.

Should the post card photographer be endowed with any ingenuity, he will be able to save quite a little by making his own novelty accessories. Mine I made out of Beaver board. The Easter egg cards, one of which is shown, took particularly well with the children, while the moon and a fireplace effect were also in demand. Prints showing this last were stained with red dye, making a very realistic effect, for which I charged a little extra. The display windows I changed every week, always arranging the samples as artistically as possible.

A post card enlarging machine added greatly to the possibilities of the studio, as enlargements could be made from negatives that specially pleased the customer, in a few seconds. The photographs reproduced herewith were all made in twenty minutes in the regular run of business, are unretouched and unselected.

One need have no fear of failure with a post card studio if a little judgment is used in selecting a location and this plan of working is followed. One will be sure to see an increase in the profits from day to day, and find the work easy as well as interesting.

You fancy that happiness consists in well-cooked beefsteak and sound electoral laws. I think highly of both these things, but comfort is not enough; every select organization must have art, must have beauty, must have form. Art is the garment God has woven with His own hands to cover the world's nudity.—Theophile Gautier.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—THE EDITOR.

SAFEGUARDING THE NEGATIVE: To avoid breaking glass-plate negatives, keep a clean sheet of plain glass in the printing frame and place the glass negative thereon just as is done when printing from a film negative. If anything breaks, it will be the clear glass, as that takes any unevenness of the frame when the back is clamped down.—Perry A. Wilson, Ohio.

PROTECTING DEVELOPING PAPER: I have several times spoiled unexposed paper by failing to close the drawer before I turned on the light to do the printing. To remedy this, I made a cover to fit inside and even with the top of my drawer. With one end hinged and the other supplied with a small weight, it always swings back and covers the paper without the necessity of closing the drawer.—Jos. Thalheimer, Jr., Arizona.

A FILM PRINTING MASK: In the June issue there was an article describing an excellent printing mask, but I think my way is a trifle better when only one or two prints are wanted from each negative. I take a piece of glass that fits my printing frame and on the outer side paste a sheet of opaque paper in which is cut a hole a trifle smaller than my negative; and, on the inner side I place a piece of heavy cardboard, in the exact center of which there has been cut an opening the size of my negatives. All that I then have to do is to remove back of frame, drop the film in the opening, put the paper over it, close the frame and expose.—Jos. Thalheimer, Jr., Arizona.

COINS AS WEIGHTS: I find that when the regular weights are not at hand, as they often are when one wishes to weigh out some chemicals, coins can be used to secure fair accuracy, as follows:

Dime	40 grains
Penny	50 grains
Nickel	80 grains
Quarter	100 grains
Half Dollar	200 grains
Dollar	400 grains
Dollar plus Nickel	1 ounce

Practically any weight can be made with them, either by adding two or more or by putting one on one side of the balance and subtracting from it with a smaller coin or coins on the other side until the proper weight results.—Frank B. Howe, California.

TINTING BROMIDES: I have been coloring my bromide prints occasionally for a number of years and it was some time before I hit upon the proper way of preparing the surface so that water colors would not dry streaky. I take some fine pumice-stone and tie it up in a bag made of a double fold of fine muslin. This I dab around over the surface of the dry print and then rub all over with the palm of my hand, finally dusting off with a soft, dry brush. Of course, getting even washes over large surfaces is a matter of some little skill in the use of the brush and color, but this preparation of the surface prevents streaks due to the color running together over the smooth surface of the gelatine film in its natural state. Using a little gum water with the color is also advisable.—M. S. C., Wisconsin.

DOORWAYS AS BACKGROUNDS: The amateur is sometimes desirous of making a portrait at the home of some friend and finds that there is nothing easily available as a suitable background. I have long practiced a method advised years ago in these pages, that of using the open doorway of a somewhat darkened room. If the subject is posed before this, in fact, almost in the door, one will find the portrait to come out with a nice black background, one that is soft and atmospheric, and very much darker than one would suppose from viewing the scene with the eye. Articles plainly seen within the darkened room will not show in the portrait by reason of the long exposure that would be required to impress them upon the plate, much more exposure than the portrait is given. If the weather is not too severe, the doorway of a barn, carriage house, or something of the kind, answers admirably, as the exposure is much shorter outdoors and the door itself can often be used to assist in the securing of a pleasing lighting by being opened at the right angle.—H. M. Wilson, Indiana.

USING OVER-PRINTED PRINTS: The user of developing and bromide papers occasionally has an over-printed and over-dense print that he does not like to throw away. Mounted properly on a sheet of glass, such prints make pleasing window transparencies if the grain of the paper is not too open or too coarse. The emulsion side of the print is first cemented to the glass by taking one part of white sugar, say one-quarter ounce, adding three parts, or three-fourths of an ounce, of water, and finally adding an equal amount, or one ounce, of Le Page's glue. Apply this in a thin, even coating and in rubbing down be sure that perfect contact is secured, as any portion not adhering perfectly will show as a glassy spot. When the print is dried thoroughly in contact, apply to the back the following, to make the paper more transparent:

White copal varnish	2 ounces
Canada balsam	1 ounce
Oil of turpentine	3 ounces

Care must be taken that none of the adhesive gets on the back of the print or this last will fail to penetrate at that point and leave a dense spot that will mar the effect.—B. O. B., New York.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

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Gustav Cramer Passes Away

Gustav, or, as he was more popularly known, "Papa" Cramer, president of the G. Cramer Dry Plate Company, died at St. Anthony Hospital in St. Louis at ten forty-five p. m., Thursday, July sixteenth, as the result of an operation for stomach trouble performed the day before. His illness started about two months previously, from which time he failed rapidly, although his health had previously been always unusually good. During his attendance at the National Convention at Atlanta his illness first became pronounced.

Mr. Cramer was well known for his large charities and benevolence; he was a director of The Provident Association, The German Protestant Orphan Home, and he was president of the Men's, and his wife was president of the Women's, Altenheim, a home for the aged.

Mr. Cramer came to St. Louis from Germany in 1859 and was for some time employed in Sholten's old photograph gallery in that city. In 1864, after serving as a volunteer in the Civil War, he opened a gallery in partnership with J. Gross under the firm name of Cramer & Gross. While conducting this business, Mr. Cramer manufactured the first dry plates made in the United States. Later this firm became the G. Cramer Dry Plate Company, which name has been retained to this day. He was seventy-six years of age and leaves a widow and three sons, F. Ernest, Emil R. and G. Adolph. These sons have conducted the business for a number of years, "Papa" having retired from active participation therein, so that the business of the firm will continue as heretofore.

The world has lost, in his passing, a man of exceptional character and capability, and the photographic profession has lost a staunch and sincere friend, who was universally liked. "Requiescat in Pace."

The St. Paul Convention

The Northwestern Photographers' Association is holding its next or seven-enth annual convention at St. Paul, Minnesota, September twenty-ninth, September thirtieth and October first, and the attention of our readers is called to the list of prizes offered, particularly the loving cup that will be awarded to a non-association member for the best exhibit. Regulations and rules, together with list of prizes, will be found on another page, and we trust will have the best attention of our readers.

Our Contributors and Our Readers

One thing that we cannot quite understand is the seeming disinclination of our readers—and each reader is also a possible contributor—to realize that their position is the simple, every-day one of a friend among friends, a member of a mutually helpful organization that is hardly less real than a recognized association. But they will not look at it in that way; the reader imagines that the contributor is something apart, some favored individual who has literary skill as well as photographic knowledge, while the contributor feels that he must have skill in writing and await the time when he has something quite new or important to offer before he can make bold to come before the reader with his story. Let me assure the reader that those who contribute of their experience to our pages are workers like themselves, individuals who permit themselves to follow that natural inclination of the man who loves his work, to talk concerning it. These good friends come forward with their efforts, and efforts they really are if one considers the task it is to write for publication without the practiced pen, doing so through their desire to help along their fellow workers, not through a desire for praise, although, let me hint that an occasional letter of appreciation from a reader would no doubt gladden the heart of any one of them. And the reader, what of him? He reads, but he rarely profits thereby, mainly because the results of his fellow worker's efforts are placed before him with so little indication of its cost. Suppose, for example, that a reader wished the information contained in one of our regular articles and that such help could be obtained only by visiting and securing a lengthy interview with the author. The interview would be less informative because the subject would hardly be as fully covered and the information would be in a less satisfactory form for after review or reference. But it would be valued at more nearly its actual worth, mainly because of its higher cost in time and trouble, to the recipient. And, being so valued, it would no doubt stand some chance of being used, of being applied, and of being appreciated.

Months ago we received a communication from one who is both a reader and a contributor; a reader who appreciates and applies the advice placed at his disposal by our contributors and a contributor who rightly believes that what he can tell our readers concerning that in which he is interested photographically will interest his fellow workers, who read our pages. Perhaps by allowing our readers the intimate insight into this gentleman's mental attitude that the letter following will give, we will encourage others to do likewise, and justify this departure from our usual form of editorial matter.

> My dear Mr. Clute:
>
> I have long intended writing you to extend my thanks to your contributors, telling you how much I owe these fine, broad-minded gentlemen, and how I, too, "learned photography from the magazines." My inspiration for so doing, itself

an inspiration, was the splendid article by Fred E. Crum in the September, 1911, issue, entitled, "Learning Photography from the Magazines."

I can recall, in my whole career, but two occasions on which I felt that perhaps I was not doing all I might to increase my business, and the reading of Mr. Crum's article was one of them. The other one had to do with a certain gentleman of Hebrew extraction who once came to our town and promptly started to do a business, the volume of which passed all belief. Not to keep you worried any longer than I allowed myself to worry, I put on my best clothes and called upon the chap to see if there wasn't something I could learn from him. I had thought myself some small whirlwind at grabbing business, but what I heard of this visitor's activities caused me to infer that perhaps I was only a summer zephyr.

The result of my investigation showed that it is easy to get business, easy to get orders, easy to make pictures, but after that one has to get down and work. Our able friend assumed that anything that looked like a picture would sell readily, and that insufficient development and fixation, to say nothing of ragged trimming and sloppier mounting on inferior cardboard, would suffice in the country, where folks "don't know nothin' nohow." I think the experience taught him more than it did me—and I learned a lot, learned that people do know good pictures and good workmanship when they see it. My energetic friend learned the same lesson, only it cost him more than it did me because he failed to deliver many of his pictures, deciding the town was no place for him. I took a tighter grip on things, did a little more hustling and reaped the benefit of a lot of canvassing he had done. Furthermore, that gentry apparently have a way of getting information to each other, and this town saw no more of them.

But Mr. Crum's article taught a different lesson altogether. It taught me to value the splendid health that was mine, impressed me with the importance of capitalizing it. Here was a man who had started in business with all possible handicaps: no money, no knowledge, no experience, no nothing. No nothing, did I say? Well, nothing tangible; nothing but his magazine reading—and *courage.* And he won out. I confess that during the reading of his story, tears at times dimmed my eyes, tears of sorrow that he should be so greatly handicapped, and later tears of joy on learning how manfully he had striven and overcome these handicaps. And the lesson? What did I learn? I learned that if one has courage all is attainable. Mr. Crum, I thank you. If you live within a thousand miles of my home town I shall make a pilgrimage to see you that I may grip your hand and say: "Well done!"

Speaking of Mr. Crum's article brings to mind another man, who, in the early stages of my photographic education, had a great influence for good. I mean Felix Raymer. His book on "Lighting" was one of my very first and most satisfactory photographic investments. Later I read an appreciation of Mr. Crum's article from Mr. Raymer's pen and I know he will be glad to hear that another has come forward and acknowledged the sources of his information. I believe I enjoyed the splendid stories that are interspersed with the lessons as much as I did the practical information in Felix Raymer's book. I can realize that his success as an educator is in no small measure due to the interest he incorporates with his instructions. Friend Felix: I thank you for the many things you have taught me.

If I could ever find the man who wrote that article, "Running a Studio Right," in the October, 1910, issue, a man by the name of M. L. Lemon, I should be willing to suspend business for sufficient time to take him out and buy him a first-class beefsteak dinner, or anything else, solid or liquid, that might appeal to his particular taste. I am sure he is a man worth knowing, a man who has no trouble with his digestion, and it might give him some pleasure to know that every time I read his article I not only agree with him thoroughly in all his premises, but I enjoy it so hugely that I immediately thereafter have to take something to allay the pains in my sides, pains induced through too vigorous laughter. At the same time this article contains a wealth of useful information and the lessons I learned are too many for enumeration. I hope some day to have the pleasure of a personal acquaintance with you, Mr. Lemon.

"Some Work In Between," by Rich A. Towers, in the January, 1910, issue is another article that has been worth the price of several years' subscriptions to me. "How One Home Portraitist Works," by R. L. Sleeth, in the September, 1912, issue, is another from which I have learned many valuable lessons. "Success as a Professional Photographer," by Walter Thurston, February, 1910, was of special value to me; and, if "Dave" took the lessons to heart as thoroughly as I did he should now be on Easy Street, and the "Old Man" should feel amply repaid. That article was very comprehensive, covering the entire field, from the selecting of a location to the adoption of a course of conduct, including hints on the furnishing of a studio and the handling of accounts. Mr. Thurston, were he to call, would find that a number of his suggestions have been put to practical use in my place of business. The article by L. C. Bishop on "Opening and Conducting a Studio" was along somewhat similar lines, and I have found much valuable information by reading and rereading it.

Last fall Mrs. Feather and I decided we would take up the photography of children for the winter months, and, as usual, turned to our files of Camera Craft to see what they offered in the way of suggestions that we might adapt to our use. In the issue of November, 1910, we found just the thing in the splendid article by Miss May Baker Mann. Mrs. Feather having a talent for handling children, our idea was that to her should be delegated the "handling" while I took care of the photographic end. With a man's natural bent, I sought for ways and means of simplifying my end of the work; and, with great glee, fitted up the flashlight system outlined by Mr. Southworth in the next, or December, issue. I want to say right here that this has been the most satisfactory thing I ever learned from this or any other magazine. It has been, to me, the means of incalculable savings, in time, material and patience.

Prior to the installation of this flashlight system we made as many as ten or twelve plates of our baby subjects, flattering ourselves greatly if we secured four or five presentable proofs. Since adopting this system that Mr. Southworth so generously placed at our disposal, we have not spoiled a plate, and the only difficulty our clients have with the proofs is in eliminating the ones they do not wish to order from. Result: we get orders that are invariably double the amount the customer intended spending when he first came to the studio; and, without any other advertising than that done by our jubilant patrons, we were kept as busy as we could wish. It has been said that the greatest reward that can come to any man is the knowledge that he has helped another; and, that being so, Mr. Southworth is entitled to all possible thanks for the help afforded me. It gives me great pleasure to publicly acknowledge my indebtedness to him and to thank both Mr. Southworth and the Editor, who made the assistance possible.

Another fine article that I have enjoyed reading many, many times, and I enjoy it because it speaks of a line of work in which I am supposed to be a leader, is the one on "Photographing Pigs," written by Walter Burke, that appeared in the issue of November, 1909. That article exerted a great influence upon me and was one of the first to impress upon my mind the advantages of specializing in one's photographic work. Since that time I have studied pigs, cows and poultry and am more and more making a specialty of photographs for the business farmer. I, of course, do a lot of other photographic work to keep my time occupied at all seasons, but farming pictures are becoming my one particular business and will eventually take all my time. Incidentally, I remember my promise of an article on this class of work and will surely get at it very soon.

Herein I have tried to set forth, in a simple way, some of the lessons I have learned from the excellent articles constantly appearing in Camera Craft. Because I have failed to mention a vast number of other and equally good articles does not imply that I do not think them of value. They are all good in their respective ways, only I have not needed their lessons in my own individual work. The splendid series by F. Morris Steadman should be of priceless value to those who contemplate doing that sort of work, and numerous other articles on kindred subjects are obviously excellent, although they do not apply in my own case. If you can, I would be pleased to have you extend my thanks to the several gentlemen whose names I have mentioned that they may know their work has not been in vain and that it has been appreciated and is valued by

Yours truly,
James Victor Feather.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

The Wire-Frame View Finder

Edwin E. Le Bas, writing in *The Amateur Photographer*, says: "What chart and compass are to the mariner, and the trusted guide to the Alpine climber, so is the view-finder to the snapshotter; the more reliable the guide, the less anxious the journey, the more certain the arrival. Unfortunately, the application of this obvious truth is not always recognized by the budding photographer. The amateur is ever ready to ask, 'Which is the best plate, the best developer, the best paper, etc., for me to use?' but how often does he ask, 'Which is the best view-finder?' Scarcely ever. It is undeniable, however, that the average standard of his work would be immeasurably raised were he to pay equally great attention to this as to the other essential features of his hobby.

"Now, apart from the reflex, there are three broad types of finders in use, known generally as the 'brilliant,' the 'direct vision' and the 'wire-frame.' The two former types will be familiar to practically all. The last named is, however, less often seen; some admirable instruments to which it is fitted being beyond the purse of many amateurs. Yet, after more than twelve years' varied experience of different finders, the writer has no hesitation in declaring it to be in every way infinitely superior to its competitors. Its undeniably greater efficiency, coupled with the fact that it can be readily made and adjusted to most hand cameras, should thus commend it to the careful and aspiring worker.

"Its construction is simplicity itself, involving nothing beyond the bending of a piece of wire into a rectangle the exact size of the plate used, fixing same to the lens-board, the 'sight' being situated at the back of the camera. Before, however, dealing with its construction, let us glance at its advantages over its rivals. Briefly, they may be summarized as follows:

"(*a*) Pictorial composition for the hand camerist working with the average view-finder is always more or less guesswork, however artistic or acquainted with the principles of composition he may be. The value of lines, of respective masses of light and shade, is entirely altered by the considerable reduction in size which they undergo; whilst minor yet often most important details become practically invisible. Here the 'wire-frame' finder scores heavily. By its means the picture can be as carefully composed as on any focusing screen (the view being, moreover, right way up), lines, masses, and details all being capable of painstaking and exact treatment. Remember, moreover, that it is the actual view which is seen and not its image.

"(*b*) In speed work its advantages are no less obvious. After the camera has been carefully set for a particular spot to be traversed by the moving object, it allows of the gradual approach of the object being easily watched, instead of, as in the case of the 'brilliant' finder, one being compelled to glue the eyes on the tiny image of the empty scene in a state of wild uncertainty as to the exact instant the object will make its appearance.

"Further, when compared in this respect with the 'direct vision' finder, the object is seen entering the field of view under perfectly normal conditions as to size, instead of the eyes being disturbed by the sudden decrease in bulk which one portion of the object undergoes immediately it passes behind the finder, the remainder still retaining its customary dimensions.

"The exact instant of exposure can be gauged by the 'wire-frame,' therefore, to a nicety, thus avoiding the unfortunate result often secured with either of the other types, where one portion of the object is on the plate and the other——!

"(*c*) The photograph can be taken on such a large scale as to practically occupy the entire plate without any danger of some essen-

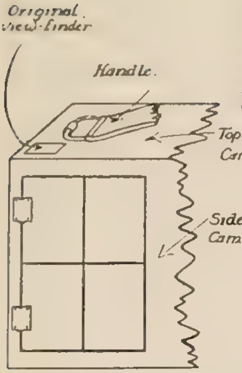

Fig. 1

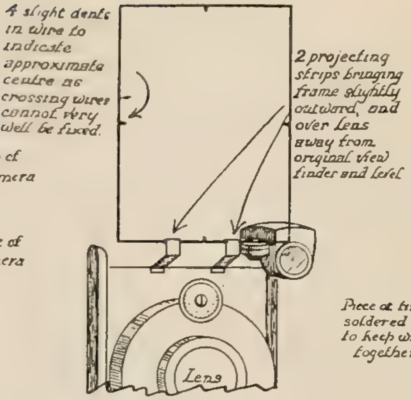
4 slight dents in wire to indicate approximate centre as crossing wires cannot very well be fixed.
2 projecting strips bringing frame slightly outward, and over lens away from original view finder and level
Lens

Fig. 2

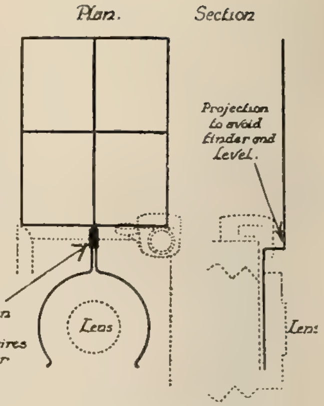
Plan.
Section
Projection to avoid finder and level.
Piece of tin soldered to keep wires together
Lens
Lens

Fig. 3

tial portion of the view being cut off by the edge of the plate, due either to the microscopic nature of the view usually seen, or else to the defective situation of the finder. This is of untold advantage when compelled to work at close quarters to a large subject and when no supplementary wide-angle lens is available. The writer has often snapped views with absolute precision in which essential features came to within one-eighth inch of the edge of the plate, a result which, needless to say, could not be guaranteed by either of the other two types.

"(*d*) All changes of focus are, of course, accurately allowed for, the frame showing the exact size of the view to be taken whether the camera be set at infinity or nearer, and whatever lens be employed, this latter fact being quite beyond the power of the other finders to indicate.

"It is no exaggeration to say that the 'wire-frame' finder fixed to the small folding or box camera gives an instrument which, in the hand of a careful worker, approximates to the reflex itself. Its adjustment is often tantamount to making the amateur a present of a new instrument. Child and animal studies, where the subjects are naturally restless, are now being left to the reflex specialist; some of the happiest results, however, secured by the writer by means of this simple adjustment have been precisely in this very field of work, the fleeting expression on the mobile features, or the movements of the body as a whole, being observable by this as by no other means.

"The construction of the finder is easily carried out and necessitates nothing beyond the bending of a piece of fairly stiff wire until its inside measurements are exactly the same size as the plate used. To be on the safe side in insuring full inclusion of the view selected, it can, if desired, be made one-sixteenth inch less each way. In order not simply to give additional rigidity, but also to indicate the exact center, two short lengths of somewhat thinner wire may be soldered across, either from opposite corners or from the middle of the opposing sides. This is, however, seldom practicable when the frame is made a fixture on the folding pocket camera; dents instead must be made in the center of each side.

"In fixing the frame to a box camera, Fig. 1 will speak for itself. To satisfactorily attach the frame to the lens-board of the folding pocket camera will generally be found a rather more difficult task. It can, therefore, if desired, be made and carried separately, slipping it on when required. In either case it must be attached to the lens-board and not to the U or other type of front, so that it shall move with the lens in all rising, falling and cross movements.

"Lens-boards vary so considerably and are fitted with so many different types of shutters and releases that no universal mode of fixture can be indicated. Fig. 2 shows, however, a simple method which will be frequently applicable, two projecting strips of thin tin soldered to the front serving as admirable carriers for the frame. Allowance must be made for the antinous release where present, which should usually be wound around the lens prior to the folding down of the frame. In all these cases, care must be taken that the frame moves stiffly in its grooves so as not to fall when erected.

The camera would thus, of course, be fitted with two view-finders.

"To carry the frame and slip it on the lens-board immediately before use is readily done, involves but little inconvenience, and avoids tampering with the lens-board and consequent risk of injuring the lens. Fig. 3 shows how it can be made. The curved arms should have a sufficiently tight grip to prevent the frame sliding around. The eye can be safely trusted to adjust it vertically. Care should be taken to see that in every instance the frame occupies a position immediately over or on a level with the single lens or else the shutter in the case of a rapid rectilinear or anastigmat.

"Now for the sight. This must be fixed as closely as possible on a level with the plate. Where one cannot be purchased, a simple and effective substitute can be made by fastening a strip of brass onto the top of the camera. In the center, and looking towards the front of the camera, solder a piece of hollow brass tubing about one-fourth inch long. Through this runs the shorter arm of an 'L' piece of brass rod. The longer arm acts as the 'sight.' Its length is important. The top of this longer arm when raised must be exactly the same distance from the center of the plate as the center of the wire frame is from the center of the lens. Should the amateur experience any difficulty in making or fixing the frame and sight, the local watchmaker will generally be found equal to the task.

"For use, raise the longer arm of the 'L' piece, hold the camera close to the eyes until the tip of the 'sight' just covers the center of the frame. If the finder has been carefully made and fitted so that it is parallel with the plate, the view seen will correspond exactly with the picture taken whatever be the rise, fall or cross movements determined upon and whatever focus the lens may be.

"For simplicity of construction, for ease in working, and exactitude in results, there is, the writer repeats, no finder on the market, apart from the reflex, which can in any way rival the many advantages of the wire frame for the hand camera. It will be a good day for the amateur photographer, raising, as it will, the standard of his work, when all our camera makers, realizing its superiority, attach it in the first place to each of their instruments."

Improvements in Moving Pictures

An invention which promises to remove the chief drawback to picture theaters—the eye-strain caused by the continual flicker of the projector—was exhibited at a private demonstration at the Polytechnic Hall, Regent Street, recently. It is called the Vanoscope, and it eliminates the tiresome flicker by abolishing the shutter used on the ordinary type of cinematograph machine and projecting the pictures on the screen by means of rotary and oscillating mirrors. It is claimed for the Vanoscope that it will throw on the screen a perfectly clear, natural and steady picture, with every figure moving true to life without jerkiness. The injurious effect of moving pictures on the eyes used to be evident to the spectator; now the mechanism has been so greatly improved that it is hardly noticeable. It still exists, however, and according to an ophthalmic expert a number of eye disorders are due to this form of entertainment. One of the factors in cinematograph exhibitions which favors the development of eye fatigue is poor definition of the original negatives. This is greatly accentuated when the positives which are used are enormously magnified. The smaller the image in the eye, the longer the impression lasts and the more the eyes are tired, so that seats nearer the screen are less desirable than those more remote. There is less eye-fatigue when sitting not closer than forty feet from the screen. That the cinema is a prolific cause of eye-strain must have been recognized by many oculists, yet, with few exceptions, the attention of the public has not been directed to this important fact, while the victims themselves seldom suspect the cause of their trouble, although many of them suffer from an increase of symptoms even while witnessing the pictures. These symptoms usually consist of headache, vertigo, nausea and fatigue of the eyes, followed later by vomiting, sleeplessness and lack of energy. Physicians and public health officials have only recently realized the important part the picture theaters play in the welfare of the community from a health standpoint. This variety of eye-fatigue may be largely removed by wearing proper glasses; by patronizing only those places which have good films, proper manipulation and proper intervals of rest between the film spools, and by sitting at the right distance from the screen no closer than forty feet). It has been suggested in America that licenses be issued only to those proprietors of moving-picture theaters who are willing to abide by the following rules: First, to operate the machine by a motor instead of by hand, to have an adjustable take-up or speed regulator and an automatic fire shutter, which renders more accurate the sequence of the individual images; secondly, to use the arc-light with the direct current, which is brighter and steadier than that with the indirect current; thirdly, to have a proper screen, free from disagreeable and harmful glare (the so-called "mirror screen," consisting of a mirror glass with a frosted surface, seems to be one of the most desirable); fourthly, to use no reels which have been in use for over a month (reels of an inferior quality, or which have become scratched from much use, give poor definition); fifthly, to allow at least three minutes' intermission between the reels.—*The Amateur Photographer.*

Improving Negatives by Reproduction

It falls to the lot of every amateur photographer at some time or another to get a negative which is either too dense or too thin to give a satisfactory print; and the remedy which at once comes to mind is either intensification or reduction. Both these processes are open to the very serious objection, in the case of valued negatives, that they involve rewetting the negative, with all the risks of injury which this brings in its train, and also that they may alter it permanently, and not always for the better, even when the adoption of one or other of them might seem to be just what was required. Most of us must recall cases in which the result of an attempt to make a negative just a little better has been to spoil it altogether.

Whatever course may be followed in the case of negatives which are not of any particular value, or at least are not irreplaceable, when the negative is one which should not be risked, there are methods which will allow improved results to be got from it, while at the same time the original negative is left unaltered.

Take, for instance, the case of a negative correctly exposed, but developed for a longer time than the printing process requires. It has all the detail there, but it is not printable at one and the same time: if we print fully so as to get details in the highest lights, the shadow details are buried in blackness, while if we stop when the latter are the right depth, the high lights are a mere blank. Instead of attempting to reduce such a negative with persulphate, which might result in uneven action, or frilling, or staining, or some other trouble, we may make a print from it by the carbon process, using preferably a piece of transparency tissue, and developing it on glass or on a piece of matt opal. A very hard negative may in this way be made to give quite a soft and well graduated positive. From this positive a fresh negative may be printed by contact on any plate, such as is used for negative making, or if the positive is still on the vigorous side, which is not very likely, the new negative may also be made by the carbon process.

It will be seen that by working in this way we are able to modify the degree of contrast at will, without exposing the original negative to anything more risky than making a print from it. The carbon positive or the carbon negative may have its contrasts increased, should this be necessary, by allowing it to soak in a solution of potassium permanganate until the gelatine is sufficiently stained to give the desired increase.

When the negative which requires modification is too flat or wanting in contrast, the carbon process should not be used. In such a case we may make a positive from it by contact or by means of the enlarging lantern on a slow, or "landscape," plate backed. The exposure and development in this case must be carefully adjusted to give as great an increase in contrast as possible; and to do this a trial plate, exposed in a series of strips, is a necessity. Having made a positive from the negative, we can, if it seems to require it, intensify this, for which purpose the uranium method is very suitable. Its want of permanence is, of course, altogether negligible when it is being used, as in this case, for a purely temporary purpose.

From such a positive transparency, which itself can be made to show a very decided increase in contrast over that of the original negative, we may proceed to make a fresh negative by a repetition of the process, taking care once more to secure as great an increase in contrast by adjusting the exposure and development correctly as we can. It should not be necessary to intensify the new negative at all.

Anyone who tries this plan carefully, so as to take full advantage of the power of modifying the contrasts which it confers, is not likely to have recourse to the ordinary methods of intensification or reduction afterwards, except in cases in which the negative to be dealt with is not worth the slight degree of trouble which is involved. It may be pointed out that where as much contrast as possible is desired, the copying, both of the original negative and of the positive, should be done by means of the enlarging lantern, and not by contact, although no alteration in size is required. The lantern itself gives an increased contrast of which one is glad to take advantage.—W. D., in *Photography and Focus.*

Reproduction of Autochromes on Paper by Three-Color Carbon Printing

Reproducing autochromes on paper by purely photographic methods in use among photographers does not seem to be such an easy matter, and, as far as I am aware, an easy and practical method of obtaining perfect three-color photographic prints upon paper from autochromes has not yet been published. Within the last few months I decided to work out a process for so doing, and, having met with the desired success, I believe the following working instructions will prove interesting to other workers:

The first thing to obtain is a satisfactory set of three-color negatives from the original autochrome. I have obtained these by contact in the following manner: The source of light is one filament of a Radax Nernst lamp. The autochrome is placed in an ordinary Lumière Autochrome reproducing box, in contact with a panchromatic plate. I have used Wratten's Panchromatic plates. To the front of the Lumière reproduction box (after removal of its shutter and yellow filter) I adapted a Thornton-Pickard studio shutter, which enables me to give accurate time exposures as necessary. In front of this shutter I adapted a set of one and five-eighths inch, square, sharp-cut analysis filters, for Nernst light, which Messrs. Sanger, Shepherd & Company supplied to me in July last. Between the filters and the light source I interpose a sheet of fine ground glass (a fixed-out matt-emulsion gelatine plate, a Paget matt transparency plate, will do). The distance of lamp filament from face of analysis filters is about five inches.

An exposure is then made through the red filter. An ordinary density autochrome gives a good negative with thirty seconds exposure. The green and blue filters require both three times the exposure for the red filter, viz., ninety seconds.

The negatives are developed all three together in the same dish, if possible, with Rodinal, one in twenty-two, for five minutes, and this gives the nice, soft, delicate negative so much talked about by all exponents of three-color work. Personally, in some cases I prefer a negative with a little more vigor in it, especially for carbon printing, and this is easily obtained by slightly increasing the time of development with the addition of a few drops of ten per cent bromide solution to the developer if necessary.

The negatives are all very good and clear. In the yellow-sensation negative (blue filter) the granular structure of the autochrome plate is very marked, but it has no importance whatever in the printing process, as this granular structure will be absolutely invisible.

In the red-sensation negative (green filter) the autochrome granular structure is much less marked and the red prints are very smooth and clear.

The blue-sensation negative (red filter) is the one to give us trouble, as the granular structure comes out very marked, and in superimposing the blue print on the yellow and red prints the granular structure of the blue print is much too evident.

A softening of the general granular structure on all three plates was necessary to begin with, and this was easily obtained without the loss of any detail in the negatives by interposing a border mask of note paper between the autochrome film and the panchromatic plate before making the exposures. This had the desired effect of greatly softening the granular structure on the resulting negatives.

As a further aid to domesticating the recalcitrant blue-sensation negative and checking its forward proclivities, I interpose a thin sheet of celluloid between the negative and the blue tissue when printing, and this has the desired effect of practically nullifying most of its obtrusive granular structure.

For printing the three negatives I use the Autotype three-color tissues. Sensitizing is done with my quick-drying sensitizer of varying density. It will be found that the average strength of the bath will be four per cent for the red tissue and three per cent for the blue and yellow tissues for printing portraits in the sun, as the red tissue is required to cover more of the highlights in the flesh tints than the yellow or blue. However, the question of strength of sensitizing baths is one to be adjusted for each set of negatives.

I prefer printing in the sun, and use a Watkins exposure meter and stop watch for timing exposures. Once these are fixed for a set of negatives, prints from it can be made at any time without difficulty.

I have found that a portrait with dark background of green foliage has the following printing data: Blue tissue, three per cent spirit bath, printing ratio eight and one-half times Watkins' standard meter tints; red tissue, four per cent spirit bath, printing ratio six times Watkins' standard meter tints; yellow tissue, three per cent spirit bath, printing ratio five times Watkins' standard meter tints.

Considering that the average time for the darkening of Watkins steadfast paper in sunlight is about six seconds, these exposures for the tissue work out to:

Blue .... $6 \times 8\frac{1}{2} = 51$ seconds
Red .... $6 \times 6 = 36$ seconds
Yellow .... $6 \times 5 = 30$ seconds

And therefore one minute's good sunlight is sufficient to print a set of negatives.

As temporary support I use celluloid waxed with Vanguard's "Glissolene," which is excellent in all respects. As cementing medium between the three films I use a five per cent solution of hard gelatine in water applied as cold as possible to the paper print laid flat on a piece of glass or opal, gently lowering onto its gelatine-solution-covered surface the next film to be superimposed on its celluloid temporary support. A few drops of phenic acid or carbolic acid will allow the gelatine solution to be kept in use for some time and used repeatedly.

Benzole cleans the wax off the surface of the prints after stripping the celluloid, and a ten minutes' immersion of the finished print in a ten per cent solution of alum serves to harden and render insoluble the cementing gelatine.

A properly executed set of negatives and proper adjustment of the sensitizing baths and correct regulation of the printing ratios of the tissues give a print on paper equal in brilliancy and color rendering to the original autochrome, with which it will stand the strictest comparison, which is more than can perhaps be claimed by many processes of three-color reproduction on paper.—Achille Carrara in *British Journal of Photography.*

The Paget Color Process—Making the Positive

J. W. Barker, writing in *Photography and Focus,* says: "Dr. Power's experience that for the Paget color process a strong positive is essential, is also that of others; and I think that many failures have resulted from the advice, which was often heard when the process first came out, to give plenty of exposure to the negative and the barest exposure to the positive.

"If correct color rendering throughout is desired, there is not a great latitude in the exposure for the negative. The exposure, in diffused light outdoors, should not be more than corresponds to Wynne f-18, or indoors not more than twice this. Over-exposure upsets the balance for yellows, but generally improves the greens. The greens seem to register faster than the reds and blues, after a certain degree of exposure is reached. On the other hand, before that certain degree of exposure is reached, the greens seem to hang fire and the reds and blues register the faster. Under-exposure is mainly the reason for a blue-green foliage instead of a yellow-green; but polarized light is, I believe, a factor here, especially with glossy green foliage which reflects well.

"In making the positive, too hard a result can be obtained by insufficient exposure and forcing development. A strong positive will be obtained, but this will generally be at the expense of some of the colors; slightly modifying tones, such as the red in a violet, will be killed.

"Yellows are the most difficult to obtain, and I find that, to get anything resembling a yellow, the blue dot in the positive must be very strong and clearly cut, and the red and green squares practically clear glass. The hydrokinone formula recommended by the makers for their special transparency plate is very good; so also is their special developer. Neither, however, should be used to develop more than two lantern slides per ounce of solution.

"The good strong dotting of the positive can only be obtained by giving sufficient exposure. If too little exposure is given, the density can be forced; but at the same time deposit will be formed in the squares, which should remain more or less clear glass. As a gauge for exposure, I find that for an average negative twenty to forty seconds is necessary at four feet from the reflecting back of a Wratten and Wainwright lantern using a bijou inverted incandescent gas burner.

"Many, if not all, positives can be improved by judicious intensification or reduction. My procedure is first to try my luck with a good, strong positive, not skimping the exposure. Next to clean up, or reduce more or less, in a weak reducer, made up of about five to ten drops each of ten per cent potassium bromide and potassium ferricyanide solutions to each ounce of hypo solution (two ounces to the pint). If intensification is necessary, I then wash and bleach in a solution of potassium bichromate and hydrochloric acid, and, after again washing, redevelop in the special Paget developer, amidol, or rodinal.

"During these operations I find it convenient and helpful to watch the action from time to time by registration with a viewing screen. For this purpose I keep a piece of old viewing screen in water. The outer gelatine surface has long since rotted away, but the collodion film survives well. I find that sometimes it is advisable to harden the gelatine of the positive in formalin (ten per cent) before reduction; but this is unnecessary for intensification, as the bichromate seems to produce sufficient hardening.

"Another point in making the positive is to use a printing frame giving a good pressure; one of those specially sold for making lantern slides from any part of the negative. I use a frame made of two members hinged together at one edge and held closed by a strong spring. A square cell in one member, closed by a spring-pressed hinged cover, receives the lantern slide. In order to insure that the slide and screen when registered shall be a nice flush fit, it is necessary to adjust the negative with one edge parallel to one edge of the cell, and to drop the slide against that edge. Sometimes it happens that the taking screen gets slightly askew on the negative in the dark slide, in which case its edge can generally be seen on the negative at a slight angle; and the negative must obviously be tilted at this angle in the printing frame instead of being set parallel. If the edge of the screen cannot be seen on the negative, a taking screen may be registered on the negative overlapping slightly at one edge, and then a sharp line made on the negative with a penknife along the overlapping edge of the screen.

Focussing Screens for Color Screen Plates

F. J. Hargreaves, writing in *Photography and Focus,* says: Most users of screen plates, particularly of the geometric type (Omnicolore, Paget, etc.), will, no doubt, have noticed that the finished result differs very considerably from the ground-glass image in its texture or grain and in the amount of fine detail visible. These differences are particularly noticeable when the subject contains a quantity of fine brightly colored detail, such as light green leaves seen against a dark background some distance from the camera. Parts of the picture which are slightly out of focus also appear different in the finished plate and on the ground glass.

All uncertainty and doubt in this respect can be done away with by replacing the ground glass by an unused plate of the make in use. In this way the "grain" of the selecting screen is superposed, as it were, on the focussed image, and the limitations imposed are thereby thus forced on one's attention during focussing.

The bare screen without the emulsion will be found too transparent for convenient use, and a coating of matt varnish or a very fine ground-glass bound in contact with the screen will be an improvement. A better way is to fog an unused plate, and develop, fix and bleach it with mercuric chloride, as has been suggested for an ordinary plate. A very dilute developer should be used, and the plate fixed as soon as, by transmitted light, it is visibly darker. The whole operation can be done in daylight if a developer such as rodinal 1 in 100 is used. When the plate is dry it should be varnished and covered as usual and mounted in the screen frame with its glass surface in the same register as the glass surfaces of the plates in the dark slides.

This brings to notice the additional advantage that since the screen is one of the actual plates in use, absolute register is automatically obtained. This is very far from being the case with ground-glass screens, which vary very much in thickness. This is of very great importance, as large apertures are naturally the rule in screen-plate work.

It will be found that the colors appear slightly brighter on such a screen than on a ground glass screen—in fact, very much like an over-developed or over-intensified screen plate—but as the colors are usually judged by looking at the actual scene, this is no disadvantage.

(N. B.—All preparation of screens by bleaching fogged plates are very unsatisfactory in practice. There is undoubted merit in Mr. Hargreaves' note, and the loss that is apparent in many color plates is very obvious in the fine gradations of distant scenes, cloud, mountain, etc. These are very tempting, and the results correspondingly disappointing. I keep a varnished color screen in my pocket and employ it, placed in close contact to the ground-glass, to correct my enthusiasm. It should, however, be noted that the lowering effect goes beyond the degradation actually obtained on the final plate because some of the color present in all screens is changed to white by selection. H. D. A. P.)

CLUB NEWS AND NOTES

California Camera Club

July and August, usually the inactive vacation months, have been very busy ones in the California Camera Club. Numerous demonstrations and lectures have made it a sort of "summer school" for all classes of photographers and several enjoyable outings and social events have afforded entertainment for pleasure-loving members and their friends.

Will E. Sparks, instructor of the San Francisco Institute of Art and one of the best known of Western art authorities, opened the July calendar on the tenth with a talk on composition, illustrated by lantern slides. His lecture was entertaining, instructive and well attended.

Sunday, July nineteenth, several hundred members of the club and their friends journeyed to the beautiful Palmdale ranch and spent the day there as guests of Henry Lachman. A considerable sum was donated by the Club to the fund for the restoration of the historic old Mission San Jose, in the immediate vicinity of Palmdale.

Many San Franciscans learned for the first time, strange as this may sound, the detailed story of San Francisco's great exposition, through the monthly lecture at Native Sons' Hall, delivered by W. C. Poole. Realizing that the very accessibility of the Fair grounds made local folk somewhat apathetic to their glories, the Camera Club secured Mr. Poole, official lecturer of the P. P. I. E., to tell San Franciscans all about the Exposition and show them pictures of the finished work. The lecture was well attended.

On Tuesday, July twenty-eighth, a demonstration for beginners was given, one showing new members how to develop, print, enlarge, etc. During the month a notable exhibit of figure studies by L. A. Goetz was on view in the club rooms. These pictures attracted much favorable attention and were succeeded by an exhibit of portraits by S. M. Luledjian.

The August calendar is full of interesting events. The picnic and moonlight dance at Wildwood Glen, Sausalito, August eighth, was particularly enjoyable. Mr. and Mrs. E. H. Kemp acted as hosts and furnished sleeping accommodations to a number of camerists who stayed overnight and went hiking the following day.

Professor Vaughan McCaughey will deliver the next monthly lecture at Native Sons' Hall, August twenty-first. His subject, "Islands of the Pacific," is one of particular interest, showing among other things the bird life of the Sandwich and Laysan Islands, of which the lecturer has made an especial study.

A prize contest exhibit of pictures of quadrupeds is announced by L. A. Goetz, of the Print Committee, for October.

Many new members have been admitted to the club recently and it is in a flourishing condition.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

What Stop To Use

To clear up the matter a little, it will be best to explain that in most focal-plane shutter or high-speed work the practice is to use one's knowledge of the subject to set the shutter speed so that it will just succeed in stopping the motion of the object or objects being photographed and then stop down all that is allowable without danger of under-exposure. With a hand camera it is good practice to set the shutter as slow as the worker feels he can allow without ill effect through movement of the instrument and then stop down, if so doing is allowable by the light, as far as is possible. In other words, one is hardly liable to stop down too far when using a camera other than on a tripod or some other support. This brings us to the use of a stand camera or the hand camera used on a tripod, and it is here that the question of the stop becomes important. While the stereoscopic effect, the sense of different planes in the view before our eye, is of course due in no small measure to the fact that we see with two eyes, as one can easily demonstrate by covering one eye and observing the scene with the other, there is no doubt but what our appreciation of the relative distances at which various objects in any given view are situated is in some measure due to the fact that objects at different planes are not in focus, do not appear sharp to the human eye, or pair of eyes, at one and the same time. Simply look past the top of this printed page at some object a few inches beyond and you will find, perhaps to your surprise, that either the printed page or the slightly more distant object is indistinct as the other is observed. The eye must shift its focus from one to the other, although it does so almost instantly and without apparent inconvenience; in fact, this shift is made so quickly and easily that many fail to realize that any shift is made, imagining that the eye finds everything in focus and sharp. To compare this case of a constant shift of the focus of the eye as different objects and planes in a view are studied, with effects secured with a lens, one has but to "stop down" the eye by inserting before it a card in which a small hole has been made and study the same scene through this opening. It will be found that this stopping down brings nearly everything in the view into focus so that the eye no longer has to make the shift in focus as different planes are examined. But in thus stopping down the eye, in addition to using but one of the normal pair, the effect of relief, the stereoscopic effect, is lost. It is the same with our stopping down of the lens; the view seems rolled out flat; there is no depth; distant objects come forward and appear sharp, as they cannot possibly do when the foreground of the view itself is being observed by the eyes. True, the eye can shift its focus and bring these distant objects of the actual scene into focus, while in the picture they must remain permanently out of focus; but the beholder who would find fault with this inability of the photograph as compared with the actual scene would hardly be so persistent for that quality if he knew it could be obtained only at the expense of having the distance always obtruding upon the middle distance or foreground when these portions were being examined, as it does not do when the actual scene is viewed by the eyes. We should use a stop that will give us the best possible compromise between a too apparent and assertive lack of sharpness in some principal point of interest and the wrong placing of this power to obtrude upon objects in the distance or elsewhere, objects that would not naturally obtrude in the viewing of the actual scene with the eyes. Doing this with some little judgment is really all there is to selecting the proper stop and arranging the focus of one's lens.

Cheap, Second-Hand Lenses

A reader in Illinois asks if we think it worth while investing in one of the "no name" sort of very cheap lenses that here and there show themselves in the lists of the dealers. We really think the pleasure of trying out one of these lenses, together with the chance of securing something that one will be well pleased to use, is well worth the few dollars invested. Truly, one must not expect a purchase of this kind to supply him with a lens that will make a good, well-branded lens unnecessary, but one might find a lens suited to some particular work that was important. For example, a friend with a good view camera got the idea into his head that he would like to try portraiture. The anastigmat on the camera did not seem to give just what he wanted in portraiture because he had to get too close to the subject with the entire combination and with only the half of the lens the exposure was entirely too long. One of these cheap, no-name lenses gave him just what he wanted. The focus was longer and the speed greater, both conducive to better results. Of course, the lens was practically useless for any other purpose, although he thinks he will be able to get some good soft-focus effects when he comes to try it out on landscapes. Another acquaintance picked up a very cheap no-name rapid rectilinear just to use on landscapes where speed was not a desideratum and a longer focus more desirable. He got both, and in addition a peculiar softness that was most pleasing, a softness that seemed to be more a matter of quality than of actual sharpness. Furthermore, he imagined that with that particular lens he seemed to have much better luck in catching those light, fluffy, white clouds that float around in a sea of blue sky. Coming to have the lens remounted, the optical firm entrusted with the work advised that the lens was badly over-corrected and that they might correct this for a given amount. But this gave our friend a hint and he asked that the lens be left just as it was; if anything, the over-correction augmented slightly. The failure of the lens to focus all the colors in one plane was the reason for the pleasing softness as well as for the success when clouds were present in the view. He now thinks a great deal of his cheap lens in the new barrel and would not part with it for many times its cost.

Children and Animals

Did you ever stop to think how easy it is to make pleasing pictures with children and domestic animals associated as subjects? About all one has to do is to see that the children are not self-conscious and that the setting is plain and suitable. Let one take a dozen plates or films and expose them on a child or two, as the case may be, feeding, watching, playing with, or even annoying, a cat, dog, goat, horse, cow, some chickens, ducks, geese, or whatever may be handy in that line, and there will result a larger proportion of pleasing pictures than would from a long, tiresome jaunt afield in search of landscapes to justify an equal number of exposures. In the first case the requirements of lighting and composition are not so exacting; and even if they were, everything would be in favor of the subject or subjects that are constantly changing as against the landscape that remains practically the same for hours, only changing as the lighting makes a decided change in its influence upon the shadows. Still another point in favor of the first is the amount of human interest the picture is sure to contain if only the poses be unconscious and the effect natural. Human interest influences most people quite strongly in their appreciation of a picture, and further, a picture whose chief claim to attention is its human interest element is not so closely examined in the matter of composition and the demands in that direction are not so exacting as in the case of landscapes and kindred effects.

A New Developer for Autochromes

In the *Photo Revue,* M. V. Cremier advocates the use of Chloranol, a Lumière product, in lieu of metoquinone. He claims that it is freely soluble, which metoquinone is not; that it gives a browner image, does not fog the edges of the plate and has better keeping qualities. The formula used is the same as for metoquinone, namely:

Chloranol	15 grams
Sodium sulphite, desiccated..	100 grams
Potassium bromide	6 grams
Hot water	1000 c. c.

Allow to cool and then add thirty-two cubic centimeters of twenty-two degree liquid ammonia. This stock solution should be filled into small bottles and used as with metoquinone.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

The South Dakota Album

There has just reached us the last album gotten out by C. B. Bolles, South Dakota Album Director. It contains quite a creditable assortment of pictures, many of them most excellent, and the South Dakota I. P. A. members who contributed thereto, have the thanks of their Director for their kindness in supplying them. It is hoped that they will be encouraged to keep up the good work and send in other samples of their work for following ones, particularly the Fall Album that Mr. Bolles desires to get out in a month or two.

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

James B. Warner, Director Stereoscopic Division, 413-415 Call Building, San Francisco.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality a letter "X" will be placed after the member's number indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

George E. Moulthrope, Director Lantern Slide Division, Bristol, Conn.

Edward B. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

ALBUM DIRECTOR.

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South Dakota — C. B. Bolles, L. B. 351, Aberdeen.
Texas—J. B. Oheim, P. O. Drawer M, Henrietta.
Utah—John C. Swenson, A. B., Provo.
West Virginia — William E. Monroe, Box 298, Point Pleasant.

NEW MEMBERS

3917—Fritz Ritschard, Kremmling, Colo.
4x5, various papers, of groups and scenes; for the same. Class 1.

3918—A. F. Miller, Box 141, Livingston, Mont.
3¼x5½ to 5x7, developing paper, of outdoor subjects, mountain views, and landscapes; for anything of interest. Class 1.

3919—Neil Wayne Northey, Box 68, Crook, Colo.
Class 2.

3920—Jack Tausig, 1297 Sterling Place, Brooklyn, N. Y.
Class 3.

3921—J. Thos. W. Luckey, 1319 West 11th St., Marion, Ind.
Post cards, various papers, of general subjects; for the same. Class 1.

3922 -G. A. Chambers, McGuffey, Ohio.
4x5, 5x7 and post cards, developing papers, of portraits, field and marine scenes; for field and water scenes. Post cards only. Class 1.

3923—Robert Karger, 1415 West 38th Place, Los Angeles, Cal.
Class 2.

3924—E. Poast, 1727 E. 32d St., Cleveland, Ohio.
Class 2.

3925—George Desilets, 29 Maple St., St. Johnsburg, Vt.
Class 2.

3926—Paul Balwanz, Pine Grove, W. Va.
8x10 and smaller, principally post cards, developing papers, of views in oil and gas fields, country scenes, mountains, and mountain architecture; for industrial, oil and gas scenes, mills, lumber, engineering, etc., also buildings. Post cards only. Class 1.

3927—Leon Cote, La Tuque, Quebec, Can.
5x7 and smaller, developing paper, of portraits, views, post cards, etc.; for the same. Class 1.

3928—Arthur G. Whelpley, 172 Washington Ave., Belleville, N. J.
Class 2.

3929—Aaron Coats, Frankfort, Ky.
General subjects; for the same. Class 1.

3930—Hugh L. Mangum, P. O. Box 523, East Radford, Va.
3¼x5½, developing paper, of mountain scenery; for any kind of scenery or views. Class 1.

3931—Ellen Thornburgh, R. F. D. No. 4, Box 9, Perry, Iowa.
Post cards, developing papers, of views; for the same. Post cards only. Class 1.

3932—J. S. Mullen, Ashland, Neb.
3¼x5½, developing paper, of views, etc.; for the same. Class 1.

RENEWALS

578—G. A. Brandt, 631 Maryland Ave., S. W., Washington, D. C.
Class 3.

1771—Burton H. Allbee, 724 E. 22d St., Paterson, N. J.
Lantern slides, preferably of historical subjects; for the same. Class 1.

2620X—L. E. Whitford, 1121 E. 6th St., Fremont, Neb.
Class 2.

2954—Anton W. Lachnit, 822 E. 8th St., Columbus, Neb.
5x7 and smaller, various papers, of general subjects; for the same. Post cards only. Class 1.

3687—A. Grootenboer, 414 North 10th St., Paterson, N. J.
Class 2.

3829—Archie Gilfillan, 1536 Haight St., San Francisco, Cal.
2¼x3¼ to 5x7, developing papers, of railroads, street scenes, marines, landscapes, and beach scenes; for railroads and marines. Class 1.

CHANGES OF ADDRESS

3451—R. R. Baldrey, N. Z. Shipping Co.'s Bldg., Gisborne, New Zealand.
(Was care Union Bank of Australia.)

3696—Harry J. Hunt, 2408 Prospect St., Cleveland, Ohio.
(Was 10320 St. Clair St.)

3744—Harry D. Hineline, Beloit, Wis.
(Was Louisville, Ky.)

3758—R. B. Foster, R. F. D. No. 2, Box 65A, Grand Junction, Mich.
(Was Berlamont, Mich.)

3857—Robert R. Keller, care The National Bank of Summers, Hinton, W. Va.
(Was Fayetteville, W. Va.)

3868—Ernest R. Norquist, 3822 No. Springfield Ave., Chicago, Ill. (Was 5758 Laflin St.)

3914—William Henze, Elkhorn, Man., Can.
(Was Langenburg, Sask., Can.)

Northwestern Photographers' Association

The officers and members of the Northwestern Photographers' Association send greetings to all photographers throughout the United States and Canada. We offer a beautiful loving cup for the best exhibit of photographs made by a non-member at our coming convention at St. Paul, on September twenty-ninth, thirtieth and October first next.

Entries should consist of from two to four contact prints, nine inches or larger one way, on any paper desired, framed or unframed, but without glass. Entries must be addressed to B. C. Golling, Ryan Building, St. Paul, Minnesota, to arrive not later than September twenty-fifth, the exhibitor paying charges both ways. The Association reserves the right to retain the prize-winning pictures for its permanent exhibit.

Three other loving cups and two medals will be awarded to N. W. P. A. members, as follows: In Class A, for the best exhibit of three prints, nine inches or larger, of home or studio work, made by a photographer in a city of twelve thousand or larger. In Class B, for the best three prints, five by seven or larger, of home or studio work, by a photographer in a city of from two to twelve thousand. In Class C, for the best three prints, four by six or larger, of home or studio work, by a photographer in a city of two thousand or less. One medal will be given for the best commercial exhibit of not over five prints, and another for the best pictorial exhibit of from two to four prints.

The Wollensak Optical Company will award a beautiful trophy cup for the best set of three pictures made with their lenses. This trophy is a very handsome one, and our Association feels that it should bring out a very fine exhibit. There is also a complimentary class, which we hope will be well represented.

The rules governing the exhibit are as follows: All pictures must be made from negatives not over two years old. Exhibits may be framed or unframed, but without glass. All freight and express charges must be paid by the exhibitor. Exhibits should be in box with cover screwed on, the exhibitor's name and address being on the under side. Exhibitor's name and address may be placed on back of prints or frames, but not on the front except in the complimentary class. In case there is but one entry in any class, it must receive a rating of eighty per cent or over to secure an award. All exhibits should be sent to B. C. Golling, Ryan Building, St. Paul, Minnesota, to reach him on or before September twenty-fifth.

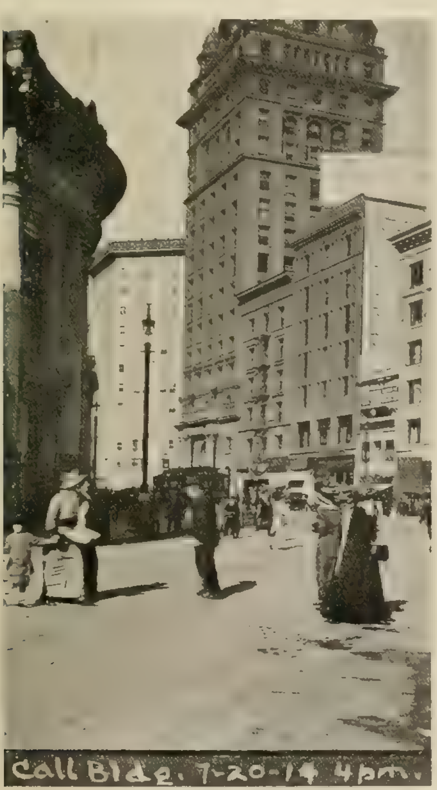
Fraternally,
R. W. HYNEMAN, Secretary,
Eden Valley, Minn.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

The New Kodak, the Autographic

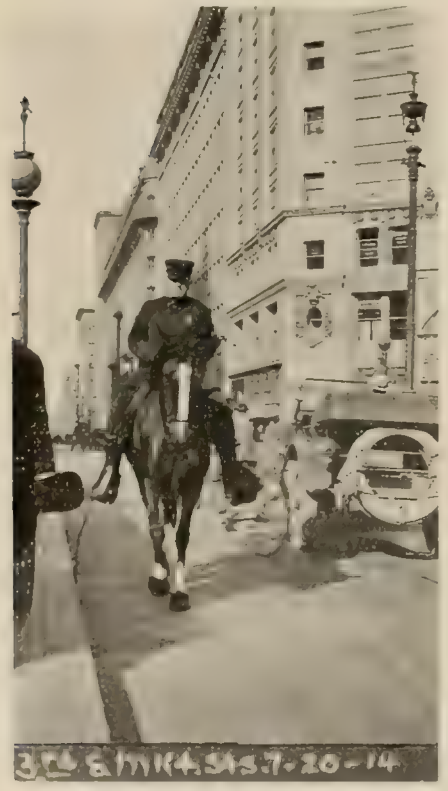
In our advertising pages this month there is a simple announcement, modestly made, of the merits of the new addition to the Kodak family, the Autographic. This new member of the family has been given a thorough trial by us and found to merit all and more than is claimed for it, being, in fact, one of the greatest photographic advances made in years. Some idea of the value placed upon the invention may be gathered from the fact that the inventor received three hundred thousand dollars for his patents covering the camera and films, as heralded throughout the country in the lay press. Regarding these last, the Eastman Kodak Company can be quoted as saying:



"Of the many newspaper articles, sensational and otherwise, concerning our payment of three hundred thousand dollars to Henry J. Gaisman for his autographic patents on both cameras and films, none have covered the matter more correctly than the following paragraph from the *New York Evening Sun:* 'The Eastman Company has really paid me a good deal more than three hundred thousand dollars,' said Mr. Gaisman at his home, 45 West Ninety-fourth Street. 'That is the amount of the final settlement. I was to have taken a royalty, but I got to thinking of the bother it would make for me and for the company and, maybe, for my family when I am gone. So I told Mr. Eastman I would take a cash payment. "Very well," he said, "I'll give you three hundred thousand dollars." A lawyer came in and we fixed it up. All my dealings with the company have been as simple as that.'"

The Autographic Kodak is made in the popular 3A or 3¼x5½ size, and is now for sale by all Kodak dealers. The cartridge used is the same as the regular one, except that it is made with a thin red paper backing in place of the thicker duplex or red and black surfaced paper, and under this thin red paper is a sheet of tissue that supplements it and not only insures the protection of the film from light, but permits of the recording of any writing that may be done from the back by simply exposing to light for a sufficient length of time to allow the light to print, as advised in a table furnished, this time ranging from two seconds in bright light out of doors to fifteen seconds in dull light indoors. Exposure to the sun is not advisable, as the time required to do the writing is too long to avoid over-exposure and a blurring of the lines. When one is working with a flashlight machine, it is sufficient to simply expose the opening in the back of the camera to a small flash made for the purpose.

When this cartridge is loaded into the camera, the latter is so arranged that a small door opens to permit the writing to be done across the end of the exposed film. This door covers a slot that is provided with an automatic spring border that presses the red paper into contact with the back of the film and in that way securing the sharp printing of the image of the writing. While a stylus is provided, our own experience was that a well-pointed pencil was more convenient, possibly through the more natural "feel" as compared with the former. We found that the pressure needed was about that required to break the lead of a well-trimmed cheap pencil, a fairly good pencil being perfectly safe. Furthermore, we found that the advice given to press firmly on both up and down strokes was quite important, as was also the advice to hold the pencil or stylus quite perpendicular in writing upon the red paper as it showed through the slot. It might be well to explain that the Autographic film can be used in the old-style 3A Kodak and the Autographic Kodak can be used as an ordinary one by using the ordinary film. When using the old-style film in the Autographic Kodak, one will simply locate the numbers in the slot instead of the little red window, which latter is moved back to a new position at the other end of the back in the Autographic.



We also found that when doing the writing in a fairly strong light it was advisable to follow and cover the work of the pencil with the thumb of the left hand and then make the two or three seconds exposure of the entire line at one time. A slow writing of the title or whatever was being recorded would result in the first part having an excess of exposure of that part last written equal to the time required to do the writing; not a matter of any great importance when work was done in good shade or even in a stronger light when one was not too slow about the matter. One should also see that the film number is located exactly in the center of the little red window so as to bring the proper portion of the film under the slot to receive the title.

Herewith are reproduced a few prints that show our success after making one or two trials on the experimental film being at present furnished with each Autographic Kodak. We did not try to see how neatly we could write, but rather, how little care we could give and yet get printable titles, readable ones. Many ways of using this autographic feature suggest themselves. One can ask his friends to inscribe their names across the end of the film on which their portrait has been taken. One can place the date and age of the child directly upon the film so that there will be no doubt on that score at some future time. The data concerning light, stop, exposure and the like will no doubt be the most common use made of the opportunity presented. A friend, a court reporter, seems able to write a whole story about every picture he takes, using shorthand for the purpose. Another chap we know takes the Kodak to the deepest shade in the landscape he has just taken, and while opening the little door for exactly five seconds, he simply draws a pencil mark the length of the slit or opening. He says that this being a known exposure to the actual light, it gives him an absolutely accurate means of comparison with the exposure given the film and he is now learning more about correct exposure in a week than he did in a year before he got his Autographic.

Keep Up Your Interest

If there is ever a time when we feel like surrendering to that assassin of ambition,

Inertia, it is in the summery, withery weather when the mercurial fluid is dancing around the ninety-degree mark, and tree leaves are refusing to stir a fraction of an inch.

We would not be natural if we were not tempted to put on the brakes in hot weather, but a little calm reasoning will prove to the most nonchalant among us that so doing is all wrong, especially if we are to realize the greatest benefit from the interest already created in Ansco Company's big five thousand-dollar Prize Contest for photographs of America's fifty Loveliest Women.

Folks have their pictures taken in hot weather, don't they?

Of course.

Lovely woman seems lovelier still in pretty summer gowns, doesn't she? We agree she does. Now, then, why is not summer a particularly good time to round up a goodly number of "loveliest women" prospects, just while they are looking their prettiest?

The big, compelling Ansco advertisements that are appearing in the leading publications are cultivating a receptive mood among that vast company of American beauties who are conscious of their charm and among their enthusiastic friends, who naturally desire to have a wonderful portrait of them made for exhibition before the world at the great San Francisco Exposition.

It is your opportunity to capitalize this receptive mood; to make the most of it while it is still receptive, and you can do it.

The natural connecting link between interested prospects and your studio is the free electrotype service Ansco Company has prepared especially for the purpose of reminding these prospects that yours is the studio for producing prize-winning photographs.

A new series of electrotypes is ready for your selection this month, and a postal to Ansco Company, Binghamton, New York, will bring you full description and proofs. In your local newspaper these attractive cuts will get right to work sending new business direct to you.

A good plan also is to have a bunch of circulars printed, using one or more of the electros, together with some "copy" that applies specifically to your studio, and the special advantages you have to offer. These circulars can be sent out to a carefully selected mailing list with good effect. This has already been done by a number of photographers.

Word-of-mouth advertising will prove very effective, too. Once get everybody in the town talking about Ansco Company's five thousand-dollar Loveliest Women Contest, and you have accomplished much. By all means let it be known. Spread the news from one end to the other of your town.

And here is another point: Make it plain that this is not essentially a beauty contest. There are countless numbers of women in all ages and stages of life who are lovely in every sense of the word, yet might not be considered beautiful. It is the lovely women who will be chosen by the distinguished Board of Judges for the honor roll, and it is you and forty-nine other photographers who are possible winners of the fifty to five hundred dollar prizes.

Let us ignore the warm weather and take a new plunge into the thick of this famous contest. Let us set our teeth and determine that we are going to make all the money we can out of it, and at the same time achieve the honor of having a contribution on display at the Panama-Pacific Exposition.

Griffin's Brown Label Goldona

We have recently had the pleasure of trying the above latest achievement in the line of self-toning papers, one that produces warm and sepia tones of a highly artistic and pleasing character. The toning is quite simple, being practically automatic, as it is only required that the printing be a little deeper than is required in the finished print, the ten minutes' fixation in a ten per cent solution of hypo being all that is required except for the usual washing and drying. The paper is manufactured in two varieties, Cream Antique and White Matte, and both of them give very fine results in combination with the pleasing warm tones so easily secured. We found the prints to have no inclination to curl during fixing or washing, and although some very thin and glassy negatives were used, there was not the least inclination of bronzing taking place even in the deepest shadows. All in all, this new paper is an article of exceptional merit, and were it advertised and for sale in this country, we believe it would become fully as popular as we understand it is rapidly growing in England. It is manufactured by John J. Griffin & Sons, Limited, Kingsway, London, W. C., England, who received the gold medal award for photographic papers at the Turin Exhibition.

DAISIES By W. H. P.

The Marvel of the Motion Picture

In a recent issue of *World's Work* is a most interesting article on motion pictures from the pen of Asa Steele. Mr. Steele not only tells lucidly of how many of the freak pictures are obtained, but shows also how the motion picture is being used in business, in education, in science, and even in politics. It is a picture story that any photographer must be interested in, but perhaps the most marvelous part of it all is the record that he gives of what the motion picture business means in dollars and cents. To quote from the *World's Work:*

"The year 1908 was one of phenomenal growth in the amusement. With the beginning of 1909 there were ten thousand shows and a daily attendance of three million people. The estimated expenditure by spectators was fifty-seven million, five hundred thousand dollars a year. A canvas made about that time, of the number of shows and the estimated seating capacity in nine large American cities, showed an average of one seat for every seven thousand six hundred and twenty-two persons.

"Yesterday four million Americans visited thirteen thousand picture shows. They do so every day. One man, woman or child in twenty-three every afternoon or evening visits a cinematograph. They pay an average of seven cents each or more than one hundred and two million dollars a year.

"The moving picture shows have driven theatrical performances from one thousand four hundred play houses and claim a patronage three times as great as that of the other theaters. Taken altogether, the play houses devoted to motion pictures seat at once one million three hundred and fifty thousand people. About one hundred million dollars is invested in the business. Last year eighteen million dollars' worth of motion picture films were sold."

Those photographers who attended the National Convention at Rochester in 1909 will easily recall the immense proportions of the plant at Kodak Park, where films for the amateur and for the motion picture concerns are turned out by the hundreds of miles. They will remember the four thousand employees and the nearly forty acres of floor space in our Rochester factories alone—that there are factories also in Jamestown, New York, in Toronto, in Harrow, England, and in Melbourne, Australia, which serve to manufacture goods for our world-wide trade.

"Of what interest," you ask, "is all this in a professional photographic magazine?"

Just this. We have been making motion picture film for fifteen years. It is a business requiring the limit of accuracy. The maker of moving pictures requires high speed in the emulsion and perfection in detail of manufacture, for every tiny defect that appears in the film is magnified thousands of times upon the canvas. He requires absolute dependability in the product, for it often costs him thousands of dollars to stage a play, and he must be sure that his film is going to give him good negatives.

We have competition in the manufacture of motion picture films from England, France and Germany, yet we furnish nearly all of the motion picture films—not merely for the United States, but for all the world. And we get this business because we furnish the best goods.

The exactions of the motion picture film business are unequaled in any other department of photography and, we believe, in any other line of manufacturing on a large scale. These exactions have made care in every detail and refinement in every product a habit with our sensitive goods department. They have helped to strengthen the organization from within itself, while the tremendous volume of the business has enabled us to provide for our manufacturing departments not merely every modern facility, but the most expert technical skill; have enabled us to pursue experimental work and provide experimental facilities at a cost which would have otherwise been prohibitive.

Our professional business, our motion picture film business, our amateur business form a concrete whole, every part of which is of benefit to every other part. Just as the other business, by its sheer bulk, enables us to give to the professional the benefit of a marvelous plant and high-priced talent, so has the professional, because he too keeps us on our mettle, helped us in perfecting our other products. It was for him, some thirty years ago, that we first made goods and from that day to this his interests and ours have been closely interwoven.

Photography in its many sides touches business and science and recreation as well as the Art in which the professional is interested. And it is through its many ramifications and our experience in meeting the requirements of each that we have been able to bring our professional products to their present state of perfection.

The New "Infallible Meter"

The manufacturers of the well-known Wynne's "Infallible" Exposure Meter are placing on the market a new form of this well-known utility, calling it the Wynne's "Infallible" Hunter Meter. This new meter while only one quarter of an inch in thickness, opens like a hunting case watch, and the inner sides of one half contain the Actinometer with standard tints and sensitive paper, together with the variations for exceptional subjects. The other half of the case contains the two scales for determination of the exposure, these being engraved on polished white Ivorine, and while the meters are sent out with the scales marked according to the F. system, they can be supplied arranged according to the U. S. or the Goerz systems. We have had the pleasure of using one of these new meters, and can commend it most highly as a marked improvement over the older pattern, which itself is quite convenient and satisfactory. There is no necessity of our commenting upon the convenience and reliability of the Wynne Meter, and in this new form it should commend itself still more highly than heretofore. The case, as we have said, is only one quarter of an inch in thickness, and a trifle less than two inches in diameter, and should last and look handsome for a lifetime, as it is made of the best solid nickel. This new meter is on sale by

George Murphy, Incorporated, 59 East Ninth Street, New York, who will be pleased to fill all orders at the American price of $2.75 each.

European War and Flash Powders

James H. Smith & Sons Company, manufacturers of the popular Victor Flash Powder, 3541 Cottage Grove Avenue, Chicago, writing under date of August third, advise as follows:

DOG TOOTH VIOLETS By W. H. P.

Powdered Metal Magnesium is an indispensable ingredient of all first-class flash powders. Such magnesium is the product of German manufacturers. It is not produced at present in the United States. This country has been supplied by the German producers, but as that country is now at war, it is impossible to secure supplies from that source, and there is no other source of supply known. There is just a faint hope that it will be produced in this country within a few months, but at present that prospect is scarcely more than a dim hope.

In the meantime we have secured every pound of magnesium available in this country, although we have been compelled to pay very high prices to get it. It therefore becomes imperative that we withdraw all previous quotations on Victor Flash Powder and Actino Flash Cartridges, and we will only be able to supply them in limited quantities and only as long as our stock of magnesium holds out. Under normal conditions it should last nearly three months, but we hope by limiting quantities to make it last longer. Let us hope that by the time we run out that the war may be over, or that some other source of supply may be developed, so that we can again restore normal conditions and prices.

Amateur Photographic Competition

The Second Photographic Prize Contest open to amateurs only, held under the auspices of the Country Life Permanent Exposition, will award three cash and eight other prizes for photographs by amateurs, to be entered in three series, photographs of country life scenes, photographs of landscapes, and photographs of marine views. The competition is absolutely free and open to all amateurs throughout the country, and the Exposition, which is permanently located over the main waiting room in the Grand Central Terminal, New York City, charges no admission.

As it opened August first, pictures may be sent at once, and in any case should not be forwarded to reach the Exposition later than October thirty-first. Pictures should be addressed "Contest Committee, Country Life Permanent Exposition, Grand Central Terminal, New York City," and all transportation charges should be prepaid. Pictures should be framed or mounted in a manner suitable for exhibition, and each contestant may enter as many pictures as wished.

While not necessary, entry blank and prospectus can be obtained by addressing A. A. Murphy, Secretary, at the same address as given above. We reproduced last month the prize-winning pictures of their last contest, and would advise our readers to take advantage of this opportunity of winning a prize.

A Handsome Catalogue

The new catalogue of photographic lenses and shutters, published by the Bausch & Lomb Optical Company, has just come to our desk and is one of the most attractive publications ever issued by that company. Besides detailed descriptions and price lists of the high grade Tessar and Protar lenses, shutters and other accessories of Bausch & Lomb manufacture, it contains a wealth of scientific material of importance to photographic enthusiasts and specific suggestions on the selection of a lens. The seventy-one excellent reproductions of Tessar and Protar work are presented to splendid advantage on an ivory-tinted paper. A copy of this interesting publication may be obtained by writing to the Bausch & Lomb Optical Company, 624 St. Paul Street, Rochester, New York.

A Fine New Stand

Photographers all over the country are showing great interest in the new "Korona Folding Studio Stand" placed in the market by the Gundlach Manhattan Optical Company, South Clinton Avenue, Rochester, New York. This stand is claimed to be the only successful combination of the advantages of the studio stand with the lightness and portability of a field tripod. A few of its many advantages are: While being absolutely rigid and immune to sliding when once set up, it may be folded compactly and is so light as to be easily carried under the arm. The legs can never slip on any floor, no matter how smooth; they open up simultaneously and are bound rigidly together while all adjustments in the height and inclination of the camera are made by the center post and tilting head, this latter being an exclusive feature. The stand is quickly set up, there are no parts to put together and no legs to draw out, etc., this is all done automatically It takes just three seconds from the time the stand is all folded to when it is ready to receive the camera. Full information in regard to this unique stand and also the Korona and Pixie cameras and the famous Turner-Reich lens will be sent free on request. Better send a postal card today before you forget it.

A Filing System

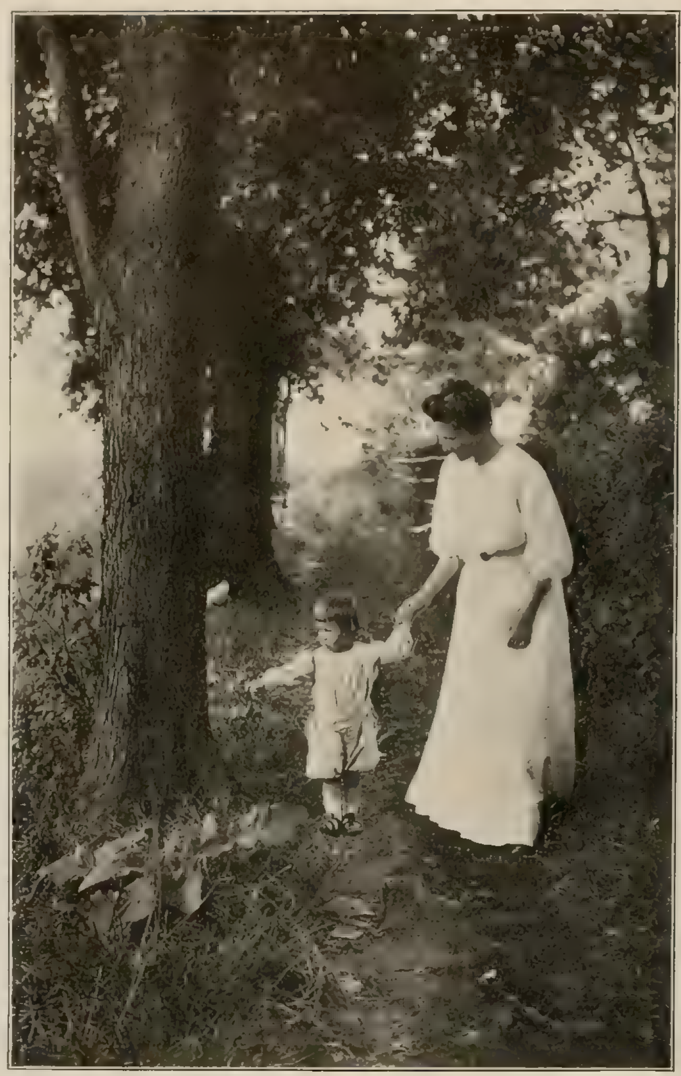
The Boo-Bok Library Company, of Boston, originators of the system for filing prints and films, have just put on the market a popular-priced form of their book-shaped filing cabinets, called the Vertifile. It is a round-backed box made of wood, bound in cloth to look like a book, and presents a very handsome appearance. There are three sizes, ten, twenty and thirty, corresponding to the same sizes of the higher-priced Boo-Boks. The Vertifile now brings the cost per unit of caring for prints and films to less than any other method, yet is more efficient than any other. The No. 20 Vertifile is also used as a scrapbook and for filing souvenir postcards.

There are two other sizes of Vertifile for non-photo purposes—No. 15 for filing standard cards 3x5 (with alphabetical guides) and No. 25 for 4x6. All sizes of Vertifile when standing on the bookshelf form a uniform set of books.

The combined attractiveness of style and price should appeal to all. We also note that a new and very ingenious follower is now being used, which wastes very little card space inside the Vertifile, which combines lightness with strength and the ease with which it is moved back and forth or locked in position. We heartily wish the Vertifile the instant success it deserves.

A New Firm Name

The Multi-Speed Shutter Company, widely known for its high-speed shutter, has recently been merged with several other interests in the newly-formed Simplex Photo-Products Company. This new organization enters the field with forty-eight distinct articles of photographic and kinematographic interest, all of a high order of excellence. In addition to the Multi-Speed Shutter, a new and improved model of which has just been put on the market, the Simplex Photo-Products Company is making the Simplex Multi-Exposure Camera, Simplex Motion-Picture Camera, Simplex Motion-Picture



UP THE PATH
By C. M. WHITNEY

Projector, Precision All-Metal Camera, Simplex Anastigmat Lenses, Simplex Flashlight Attachment, Simplex Photo- and Motion-Picture Chemicals, Simplex Multi-Flex Lamp, etc. Factory headquarters remain at Morris Park, L. I., and the New York office at 114-116 East Twenty-eighth Street.

New Ross Lenses

The Ross Limited, of London, are constantly introducing new styles of photographic lenses so as to meet the new photographic conditions which are constantly arising. They have just introduced a five-lens system with triple-cemented back, called the New Ross Xpres, speed f-4.5. It is particularly adapted for portraits and groups in the studio and outdoor work. The smaller sizes are especially good for high-speed photography, autochrome or three-color work. They have also introduced another series, called the Ross Combinable Lens, working at 5.11, and doublets at f-5.5 to f-6.3. The doublet is a three foci lens working at f-11, thus on the one lens you are able to get three different foci. The single combinations give brilliant definition at full aperture. Send to the American agents, George Murphy, Incorporated, 59 East Ninth Street, New York, for their new Ross Lens and Camera Catalogue.

Interesting Returning Vacationers

September sees mountain trail, burning beach and ocean liner yielding up their respective charges and returning them to the old routine, refreshed in body and mind and better equipped to resume their varied pursuits.

A vacation really does work wonders, doesn't it? We go away, hollow-cheeked and nervous, feeling that something is going to break any minute. We're pessimistic. Overwork has injected its deadly toxins and we vow we couldn't have stood it another week. And then——

Once outside the corral of commercial strife, Pessimism slinks away, like the traitor that he is. We get the first night's rest in a strange world, far removed from the maddening whir of the machinery of business.

Up bright and early next morning, a cold dip, a brisk walk, breakfast. Now for the woodland trail or the beckoning strand. We sniff the air, and then the long, deep breaths, chest heaving like the bellows of the village smithy. Ah-h-h-h! We're taking on new life. We're actually getting younger. A week; two weeks; a month of life in the open, communing with Nature and frowning upon anything that reminds us of the monotonous grind back in the big city. Then a look in the mirror. Surely this can not be the same person. What a really wonderful change. But that's what a vacation does for us.

And here's the point! In this vast crowd of returning vacationers there is much better contest material than ever before. Lovely women have taken on a fresh bloom of health. Cheeks are filled out and necks are nicely rounded. There's a sparkle in their eyes that indicates new life and interest and receptive mood.

They're ready now to listen to the story of the big prize contest. Their friends are anxious to have them known as among America's loveliest women. All you need to do is to touch the spring that will set them in motion and lead them to your particular studio.

Now, in the full glow of vacation health and spirits, they realize there is a greater opportunity of being chosen. And they are right. Your task is so much easier now, *right now.* You know how to get them interested. You've already interested a large number of them, but you must not stop there. There are only a few months left in which you can enter new contestants. The fame of having one's work exhibited at the great Panama-Pacific Exposition and the possibility of your winning a fifty to five hundred dollar cash prize should be sufficient incentive to make you do your level best while there is yet time. You have, or can get free, newspaper electros which tell about the contest to use in your local newspaper. These are direct connecting links between your particular studio and the powerful advertising that the Ansco Company has been doing each month in the magazines of big circulation and influence.

You know, among your customers, several lovely women, who, you have reason to believe, possess the portrait qualities necessary in a contest of this kind. Urge them to have their pictures entered. They get the coveted honor and you get the cash prize and the distinction of having your exhibition brought before the gaze of the world in 1915. Aside from this, you get a lot of valuable advertising without cost, following the announcement of the winners. There is certainly every reason why you should enter heartily into this big contest and help make it hum.

Buckle up this month and have all the lovely women for miles around hitting the trail to your studio. It will pay in business, increased business, besides all the other advantages pointed out in the foregoing paragraphs.

Kodak Attachments

There are two little attachments advertised from time to time in our pages which every kodaker should own and make good use of during the coming season. The one will so materially increase the efficiency of his Kodak as to make it capable of doing the work of two cameras, while the other will, in many instances, improve the artistic quality of negatives made with its aid about one hundred per cent. We speak of the Kodak portrait attachment and the Kodak color screen. One never realizes the advantage of a portrait attachment until he has used one for portraits and other interesting close work. And the same may be said of the Kodak color screen. The Kodak color screens are scientifically made and are especially suited for reproducing cloud effects in the negative as the eye sees them. Instantaneous exposures are readily made in one-tenth of a second in bright light, and the results are most beautiful. These attachments are really worth having if you are interested in making better Kodak pictures.

A New Vertifile

We note that Boo-Bok Library Company have just put out their new Vertifile (No. 17) for filing lantern slides. Vertifiles, we might explain for the benefit of those unacquainted with this inexpensive and labor-saving utility, are book-shaped files attractively and uniformly bound in cloth so that several, as they stand on a shelf, apparently form a set of books. This new No. 17 Vertifile will hold fifty lantern slides, numerically arranged with provision made for indexing the contents of one or several of the Vertifiles under a single index. This method of filing lantern slides is the most attractive that we have yet seen and the price of the files is extremely reasonable. See their advertisement, that of the Boo-Bok Library Company, Dept. J, Boston, Massachusetts, on another page.

Velvosol Makes Big Hit

Velvosol and Clearo Compound are coming into great prominence lately. This combination makes an exceptionally fine developer for all gaslight papers. It is especially recommended for glossy and velvet surface papers as it gives nice clean whites, free from abrasion marks. The Mission Photo Supply Company, Incorporated, 3090 Sixteenth Street, San Francisco, who are agents for these products, are shipping Velvosol to all parts of the country. Formulas and price list will be sent postpaid for the asking.

Hammer Plates

These are the plates for the summer months, as with short exposure they give full detail, grasp high lights, develop and dry quickly. The factor of frilling is thus reduced to a minimum. The amount of information contained in their little book, "A Short Talk on Negative Making," is really wonderful, and it is yours for the asking. Write to the Hammer Dry Plate Company, St. Louis, Missouri.

Illinois College of Photography Notes

Miss M. Racoubian, of Sivas, Turkey, has finished a course in photo-engraving and three-color work at the college. She will return to her native land in a short time to engage in the engraving business.

The students journeyed to Lake Kanagge, west of this city, for a picnic on the Fourth, spending the day in fishing, boating, eating and other safe and sane amusements.

F. E. Halldorson, inventor and manufacturer of a number of well-known photographic appliances bearing his name, was a visitor at the college last week. While here he demonstrated the merits of some of his apparatus.

We received pleasant calls last month from Howard Horton of 1913, W. F. Selle of 1910, and Fred Hulstrand of 1910.

P. F. Graber of 1908, who is now traveling salesman for the Schiller Photo Supply Company of St. Louis, made the college a professional visit last month.

President Bissell and wife have returned from an auto tour through Indiana and Michigan and report a very enjoyable trip.

Among the students enrolling last month were two from abroad: V. Isbetcherian, of Constantinople, and G. Tumasonis, of Lithuania.

XXI No. 9 SEPTEMBER 1914 Price, 10 Cent

CAMERA CRAFT

SAN FRANCISCO
CALIFORNIA

—a cable from Ansco Limited and the explanation that followed:

On Saturday, May 19, at 10 A. M., we received the following cable from London:

> "Montague Cooper, Taunton, Somerset, England, captures gold medal at British congress. Prints on CYKO PAPER."

> "The annual photographic congress of Great Britain—the greatest photographic event in Europe—was held last week, and as usual the CYKO exhibit was the main attraction. The gold medal which goes with the first prize was captured by Mr. Montague Cooper, Taunton, Somerset, England, on the strength of his *three CYKO* prints. The second prize went to Adams, Reading, England; the third to Dührkoop, Germany. CYKO is the prize-winning, the international, and the money-making paper."

Ansco Company

Binghamton, N. Y.

A DOORWAY—GRANADA
By GUSTAV EISEN

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY
FAYETTE J. CLUTE, Editor and Proprietor
CALL BUILDING SAN FRANCISCO CALIFORNIA
VOL. XXI SEPTEMBER, 1914 No. 9

Photography for the Naturalist

By Benjamin W. Douglass

With Illustrations by the Author

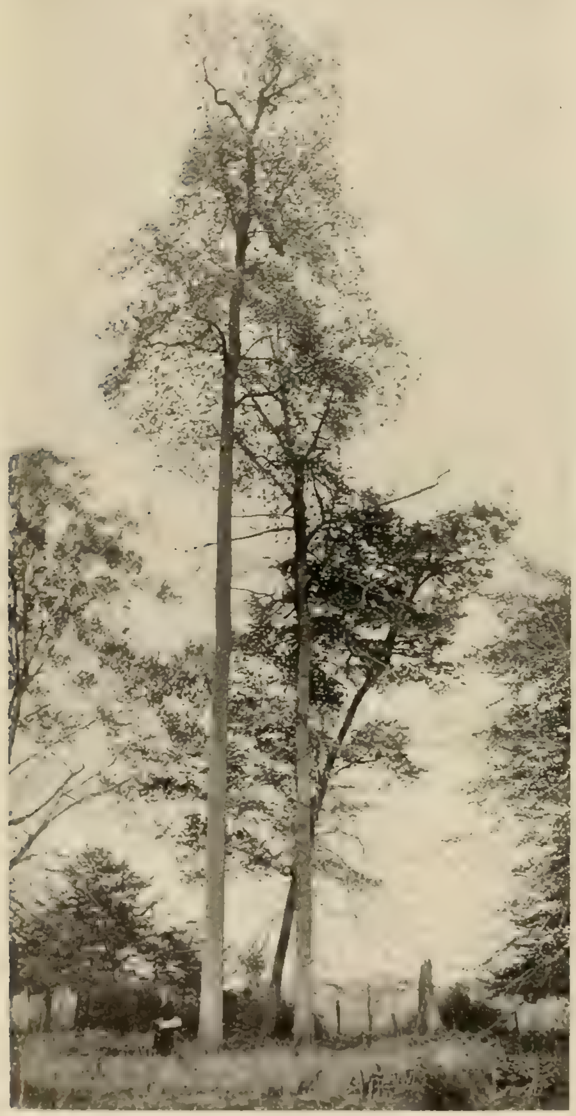
In former days the naturalist was content to work out his problems in almost solitary seclusion and to trust solely to written descriptions to perpetuate the results of his endeavors. It was rare indeed that the early naturalist was equipped with sufficient artistic ability to make even crude drawings of his subjects. Audubon, of course, stands out as a remarkable exception to this rule and his immortal work on the birds of eastern North America is one of the finest examples of scientific illustration that can be found in the world. However, there was but one Audubon, while there were hundreds of naturalists who were unable to make other than written records of the things they saw and studied. This is probably one, if not the chief, reason why, for many years, nature study was not popular, the layman remaining uninterested in scientific matters.

With the introduction of photography it became possible for any student of natural history to so illustrate his work that any one reading his descriptions could more easily and more fully understand them by reason of the photographic reproductions. This use of the lens has now become so universal that a naturalist who does not possess and fully understand the use of a good camera is handicapped beyond measure. Every teacher of natural science should, and generally does, own a camera; and, as a result, such teachers find it possible to present to their pupils the subjects of study in such form that they are readily understood.

There is another vast field to be covered by the scientist who is teaching in a broader sense, whose school room is that occupied by the general public. I refer, of course, to the scientists in the employ of the government, both national and state, whose duty it is to publish bulletins and reports which bring, to the hands of the farmers, technical information regarding various phases of agriculture. My own work along these lines has been extensive, and I early learned the value of the camera in making a no small proportion of the points I wished to drive home in the minds of the fruit growers with whom I was associated.

My earliest serious work in this line was the preparation of a series of reports concerning forest conditions in Indiana; and later, my several reports as State Entomologist, these last being almost "picture books" that became very popular, large editions of them being rapidly exhausted. They presented the subjects in such a way that the average reader could easily recognize them from the illustration, something that would have been hard for him to do with only the unillumined text. I found that trees, with which I was then mostly concerned, were best taken when innocent of foliage, or nearly so, as the form and character of limb growth were best shown. As in the case of the tulip tree picture, the introduction of a figure is often necessary in order to give an idea of the height, this particular one being sixty feet to the first branch. Trees taken as were the sycamores, allow one to show, in the same picture, bark detail in the nearest one and branch character in others of the same kind. The apple tree, reproduced herewith, measures over one hundred inches in circumference and is said to be over one hundred years old.

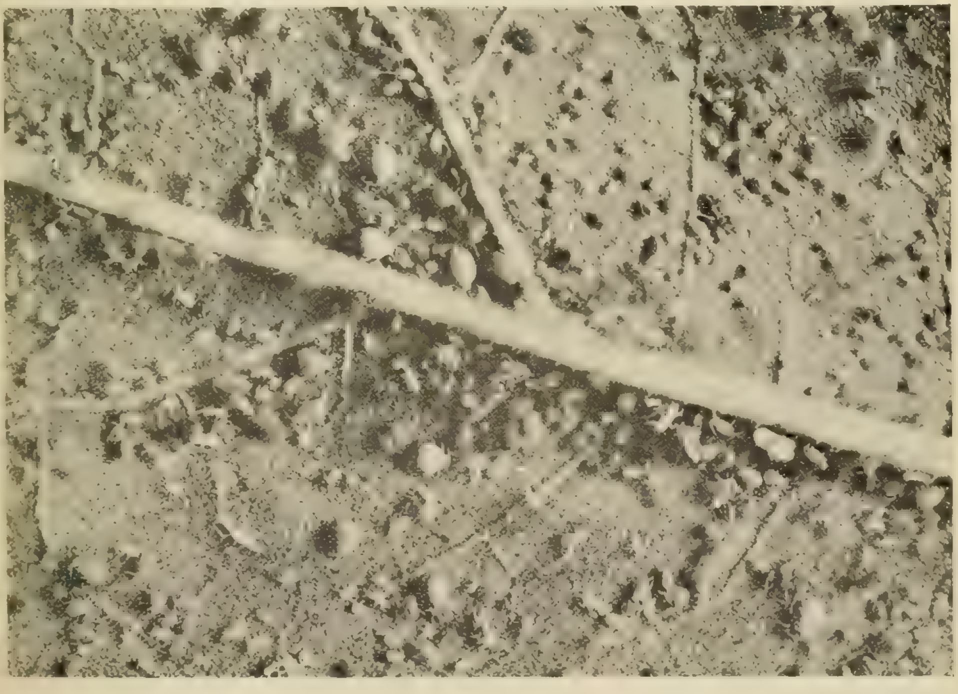
I have always found much to interest in a comparison of the different government and State bulletins that come to my desk in large numbers. Some of



TULIP TREE—MAGNOLIA SPECIE

OYSTER SHELL SCALE—TOP LIGHT, PLAIN BACKGROUND

them are illustrated; sometimes with fine work, while at other times the pictures would not do credit to a novice in photography. An otherwise excellent bulletin is frequently spoiled because the author had failed to provide adequate illustrations showing his subjects. This is often true of the publications gotten out by small colleges that as yet have not learned the value of providing not alone pictures, but good ones as well. In contrast to this class of bulletins are the almost universally well-illustrated publications of the Department of Agriculture at Washington. Often the illustrations are better than the text, because they are above criticism in any particular,—more than can be said of some of the eccentric theories that occasionally escape from that august department.



PLANT LICE ON SUNFLOWER LEAF—FIELD WORK

In the matter of equipment there are two things to consider. In the first place, one must know whether most of the work is to be done in the field or whether the bulk of it will be laboratory work. If both classes are to be handled, the camera should be large enough to give satisfactory results and at the same time light enough to be carried about. In my own work I always used a 5x7 view camera. The make is immaterial, because almost any view camera will answer the purpose. In general, these are more substantial and less complicated than a self-contained or folding camera of the same size. As to cost, I prefer to economize on the camera, putting the difference into the lens and shutter. As a result, I use a high-grade shutter and a Protar lens. With this equipment I was able to handle any kind of subject that came my way in the field. The same lens, mounted in a separate front board, also does service in the laboratory when it came to making pictures of insects, fruit, and other small objects at close range.

Just now the camera enthusiasts are all worked up over the relative advantages of the large size cameras and the little, "dinky," vest-pocket affairs that are being offered in great variety. These latter are no doubt preferable for the amateur, particularly the one that travels about or the one whose camera work is of secondary importance, but for myself I think I had enough of the small sizes years ago. I used to own a Kombi camera,—I think that was the name and the way it was spelled. I forget just how small a picture it took, but it was small enough. Then I had a pocket kodak, one of the first edition, but after that I took to the larger sizes and have stayed with them ever since. Once in a while I will condescend to use a 3¼x4¼ when I have a load of other stuff to carry, and I have done some very excellent work with a little Voigtlander camera of that size. Pictures of this size have enough lens quality to allow of their being enlarged to almost any size and still retain their sharpness. Not all of the little cameras now in vogue will allow this, and therefore they are not all suited to serious work, although they may answer very well for record pictures such as one makes on a fishing trip or a Sunday-school picnic.

For my laboratory work I always liked the tilting stand and long-draw camera put out by the Folmer & Schwing Company. It allows of tilting the camera at any angle, and with it almost any sort of laboratory picture can be made. By attaching a microscope, one can also use it for photomicrography. On this camera I have used two lenses; one the 5x7 Protar and the other a little, short-focus Tessar. With the former I can photograph anything that I can get on the object platform, and can get it life size or smaller. With the Tessar I can make pictures of objects having a fairly flat surface and render them sharply up to about ten diameters.

With some subjects it is desirable that an effect of depth, or roundness, a stereoscopic effect, be brought out. With others it is just as well to allow the lens to flatten out the subject as much as possible. It requires a little, but not much, judgment to decide which treatment to employ with the different subjects coming before the lens. For instance, the mushroom in the accompanying cut has been photographed to bring out the fact that the top or cap is convoluted and that the stem is hollow. This has been done by using a side light and photographing the subject close to a soft gray background. I made another pic-

THE COMMON MUSHROOM (MORELL)

ture of the same subject under a direct light with the background some distance behind. The result was flat, failing entirely to show what I wanted to secure. Compare this with the picture of the cecropia moth. What I wanted in this last was extreme detail, regardless of stereoscopic effect. For that reason a top light was used with a plain background placed far enough from the subject so that no shadow fell upon it. The same lighting was used in making the picture of the oyster shell scale.

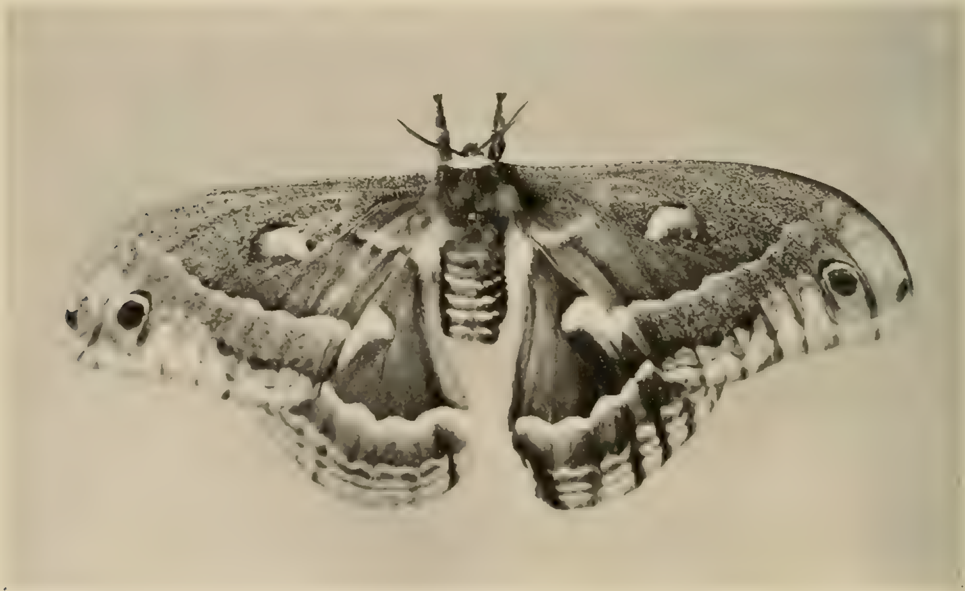
One subject that caused us much trouble was a common wood tick. Like all its near relatives, it is restless in habit and simply will not "sit" for a picture. As a result, we had to kill it with cyanide before photographing it, and further as a result, it curled up its legs as soon as it was dead—if not sooner—and we had hard work to get all eight of its crawlers straightened out. Then, by the time we had the last one straight the first one would begin to again fold up under the beast. We at last tried sticking its legs to the glass with a little glue and canada balsam. This worked fairly well, but in the resulting picture the glue showed up far too plainly. Finally, my chief assistant, Frank Wallace, than whom there is no better photographer, decided to try a new scheme that had just entered his mind. He shaved down a piece of Ivory soap to a flat surface, aid the tick on it, straightened out its legs—and they stuck. The soap itself made an excellent background and we have since used the same trick in photographing any number of these bugs that show a tendency to be unruly.

Any number of people have asked me whether I used plates or films. What does it matter? In reality, I use either and get good results from both. Films are lighter than plates and therefore better if one be on a trip where a heavy camera has to be carried around. They are also more compact. Plates are cheaper and for that reason I always use them around home or in laboratory

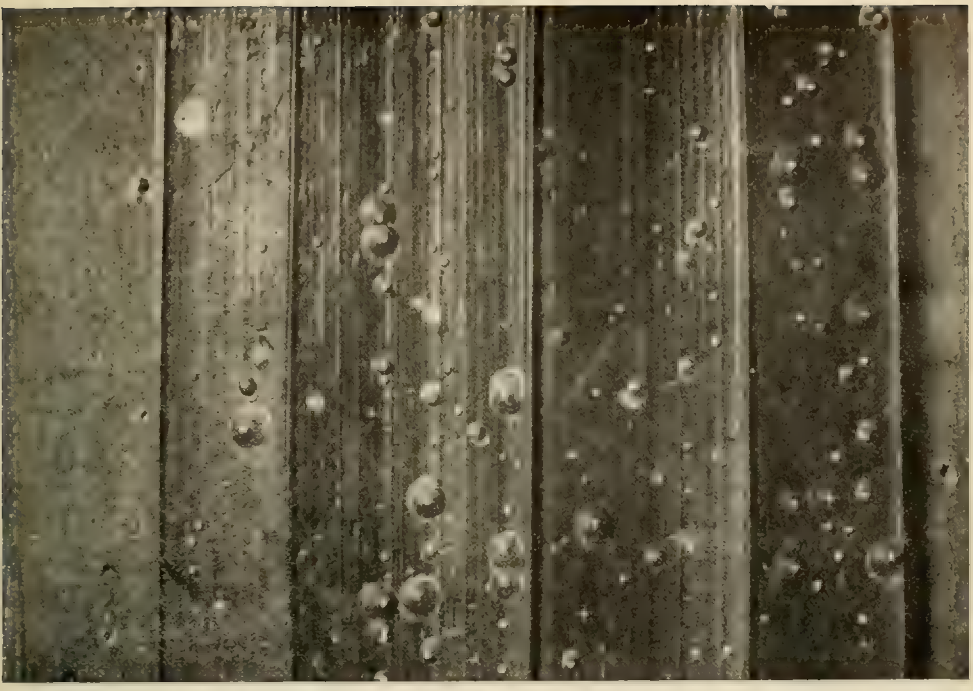
SYCAMORE TREES ALONG A CANAL

APPLE TREE IN CENTRAL INDIANA

work. The main thing is to select a good brand of plates and stick to it until one learns to get good results with the minimum of trouble. For photography



CECROPIA MOTH—EXAMPLE OF EXTREME DETAIL



SCALE INSECTS ON PALM LEAF—LABORATORY WORK

of the sort I have been talking about, I would advise the use of a glossy, black-and-white paper for printing. Most pictures of this class are made with all possible detail and with the expectation that they will some day be reproduced. For this reason, the glossy black-and-white paper makes an ideal print, particularly after it has been given added gloss by being squeegeed down on ferrotype plate.

While I am no longer actively engaged in scientific work for the State, I am just as much interested therein as I ever was. Here at the big Hickory Hill orchards, which I am developing, I still keep up an interest in photography of all sorts. Just now I am busy managing the next Indiana Apple Show and we have been making a series of motion pictures to show the business of apple growing, from the clearing of the land to the selling of the fruit. This is my first venture into the "movies," but I have already seen enough to know that the next step for the naturalists will be the general employment of this wonderful medium in presenting their subjects to the public.

Fear

A woman found herself living in a world of fear. Wherever she turned, she saw a menace. And within she felt a continual threat of danger. She began to think that she was in the grip of a malevolent fate. Helplessly she considered what she should do. Should she yield to fate by giving up her life? Or should she overcome her fear?

This questioning filled her with alarm. One of the greatest of her fears was death. Equally great was her fear of life. Suppose she were to look each fear, as it presented itself, straight in the face. At once so many fears came, in aspect so dreadful, she shrank away. Then the woman said to herself: "Suppose all my fears came true? They could not harm me more than they are doing now." Instantly she made a resolve to resign herself to the spirit of life. Whatever might come she would accept as part of the universal plan. At that moment, greatly to her surprise, she felt stronger. During the next few days she was aware of her fears. But they were not so close as they had been or so threatening. They also seemed different in their attitude toward her, less vindictive, less concerned with singling her out for their prey. She had a curious impulse to call to them that she was ready to take whatever they kept in hiding. Meanwhile she went on with her daily affairs. She noticed that she had become more efficient. Instead of fixing part of her mind on those fears, she could concentrate on the task in hand. She felt as if little springs of happiness were bubbling in her mind and sending health through her whole being.

One day the woman met the greatest of those fears. It stood in her way. "Long ago I told you that I was coming," it said. "You thought you could keep me out, didn't you?" Steadily she looked at the misshapen creature, hideous of face, leering. "If you are real I am not afraid of you. There is a power within me that gives me greater strength than yours. And if you are only a fear, you are nothing." Instantly the fear vanished.

One day, when she was feeling particularly well, she felt the presence of something curious, like one of those old fears, and yet unlike. It stood there, a mighty figure, stern of face, but not repulsive, as the other had been. "Are you afraid?" it said. "No," she replied, and she held out her hand. They stood together, their hands clasped. "You are a brave woman," said the presence, with a smile that had a kind of radiance. The woman shook her head. "Oh, no. But I am happy in being a part of the universal plan. Tell me what I must do. I have received so much that I should like to give something in return." "Those who are without fear are always giving," said the presence. "And those who receive me as you are doing, teach mankind how to live." * * *

People wondered at the change in the woman. Where she had once been weak and ill and depressed, she now seemed to be infused with strength and health and good cheer. The trials of life she met in a way that made them sources of power. When someone asked her to explain the mystery, she merely laughed and said: "There's no mystery; I've merely learned how to be normal."—"OUTLINES," by *John D. Barry.*

Growth, development, increase in power must come from within. The man or woman, to achieve, must be born again. Accomplishment is the result, not of fitness, but of determination to be fit; not of preparedness, but of striving for preparation.—HERBERT EDWARD LAW.

Illustrating Books with Photographs

By Stanley Clisby Arthur

With Illustrations by the Author

EDITOR'S NOTE.—*The illustrations shown with this article are a portion of those used in a larger size to illustrate a handsome quarto volume of jingle verses by Ella Bentley Arthur, entitled "Sonny Boy's Day at the Zoo," published by The Century Company of New York. The pictures are all copyrighted by The Century Company, and it is through their kindness that we are permitted to place them before our readers in this form. The book mentioned above contains some seventy-five similar, although larger, illustrations; not to mention a number of handsome initials such as the one used in the opening paragraph below. The volume, aside from its high educational value, is one that will delight the heart of any child, and our readers will be pleased with it as an example of what can be done in the matter of successfully illustrating a book by photography. The price of the book is quite nominal, ninety cents, we believe. It can be ordered direct from the publishers or through any book-store.*

WHY is photography not ranked as the principal illustrative medium of the day? This is a question that has been discussed considerably among those who are interested in making pictures by the aid of the lens and sensitized plate. It is only recently that photography has really come into its own and today it is one of the greatest forces in education and scientific research, while its right to be called one of the elements of Art is no longer seriously disputed. Likewise, it has had a most spectacular rise in the past half dozen years by completely revolutionizing the stage through the motion picture.

This seems, at a cursory glance, to be a basis upon which to work out a problem showing conclusively that photography can be made the illustrative medium of the future and to serve as a warning to the knights of brush and pencil that it would be well to begin familiarizing themselves with the various aberrations and 'isms of lenses; the chromatic qualities of emulsions; rising and falling fronts, and similar deep mysteries of the photo craft. But the artists frankly ridicule the idea that photography will ever illustrate anything more than current news events, books of travel and an occasional calendar or two, while many photographers themselves admit the belief that photography will never become a force in illustrating fiction. They maintain that photographic art has its boundaries and that it can never, through certain physical limitations, invade the pictorial field of current fiction.

I, for one, cannot wholly agree with this viewpoint. A department head of the one of the largest publishing houses in this country (a firm that makes a specialty of fiction and gift books lavishly illustrated), while agreeing that photographic illustration has not yet been successfully demonstrated, wrote me, in answer to my query: "I doubt if the camera can ever supplant the brush and pencil, though progress in photography is so great and so rapid that it would be foolish to predict any limitations to the art."

An authority in another large publishing house replied, in answer to the same question: "I do not see why this plan (photography) may not be employed with success in the illustration of more and more books as time goes on, though, of course, this method of illustration will never replace the work of illustrators. Photography seems to be largely successful in books where outdoor illustrations are helpful. When it is a matter of careful character study, the artist's fine work comes in."

These two excerpts and opinions are characteristic of the attitude of publishers of books on this photographic illustration question. That books of travel, poetry, and technical works have been so illustrated; that such magazines as *The World's Work, The Garden Magazine, Country Life in America,* etc., are almost entirely illustrated by photography, shows that the cause is advancing; that a photograph is not a curiosity among the publishers, and all that they will need, to become converts to photographic illustrations of fiction, is a series of photographs that will truly illustrate.

KANGAROO—THE GREAT JUMPER FROM AUSTRALIA

The Editor of Camera Craft has asked me to write an article on illustrating books with photographs because of the fact that a juvenile book I illustrated in this manner was not only published by a leading house, but became a "best seller" as well. Juvenile books (I speak only of those that have become commercially successful) are difficult to write. There is an indefinable something in the favorite ones that defies successful imitation. In the illustration of this type of book the same difficulties are experienced, for those artists who can draw successfully for children are few and far between.

To make my viewpoint clear, I must, perforce, take my own book, "Sonny Boy's Day at the Zoo," for an example and explain how it was conceived and carried out so as to successfully invade this most difficult field. The start was made from one point that registers a strong vote for things photographic—realism.

My little son was born just outside the gates that shut in the great wild animal collection of the New York Zoological Park, better known as the Bronx Zoo. Perhaps his earliest impressions were of being wheeled in his perambubulator past the bars behind which fierce animals stared curiously at his among his puffs and laces; and when he grew to the age where he could voice his sentiments, he demanded daily to be taken to the wonderful playground where he was making friends and comrades of such creatures as the average child holds in awe.

It was while watching the joy that our own little son took in his intimate companionship with these various animals that Mrs. Arthur, who wrote the rhymes for the "Sonny Boy" book, and I conceived the idea of bringing the zoo to the children (reversing the old formula of Mohammed and the mountain) who were not so fortunately situated as our own boy, and who could not behold this wonderful menagerie with their own eyes.

BUFFALO—THE MIGHTY BISON OF THE AMERICAN PLAINS

"Sonny Boy's Day at the Zoo" was the result. It was not a new idea. Many books have been published of zoos and children who visited them. They have all been profusely illustrated by brush and pencil. Some, from a zoological standpoint, were good; others had pictures by artists who drew largely on their imagination, and the results frequently showed forms of animals that were grotesque in their misconception. Many of these drawings were evolved—like the old professor's elephant—from the artist's inner consciousness.

CAMEL—THE DESERT ANIMAL FROM ASIA

TIGER—THE STRIPED JUNGLE CAT OF ASIA

I feel that the instantaneous hit "Sonny Boy" made was due to the realistic note it struck. The Sonny Boy of the book was a real youngster; the zoo was real; the wild animals were real, and there was no surer way to record these realities than by the camera, therefore the pictures were real. Sonny Boy was photographed in front of thirty of the different wild beasts and birds; each of the animal subjects was separately pictured, while a head of each animal was used as an initial piece, and the verses written.

RHINOCEROS—THE THICK-SKINNED BEAST FROM INDIA

Having registered our idea in tangible form, we proceeded to market it. Prior to submitting the "dummy," I endeavored to learn from publishers how such a book would be received. The mention of the word "photographic" did not arouse any great degree of enthusiasm among those who are engaged in the publishing business. One to whom I outlined the scheme declared the illustration of such a book, especially a child's book, was a commercial impossibility as it would not be attractive. (I recently mailed him a copy of the holiday number of the Literary Digest, which placed "Sonny Boy" first among the forty best books published for children.)

Other publishers declared that the expense of preparing such a volume would be undertaking too great a risk, as the outcome was purely a financial gamble. These experiences are mentioned merely to show that there is a preconceived notion against the employment of the camera in the field I have invaded.

When the "dummy" was only partially completed it was shipped by express to the Century Company, to whom we were unknown, for we felt that if the book had any merit at all it would work out its own destiny. It was accepted and published the following Fall on a very satisfactory royalty basis, and as a result, the issuance of "Sonny Boy" has proved a very nice financial investment for all parties concerned. This is mentioned to show that there is something

"SONNY BOY" AND THE DINGO, THE LITTLE WILD DOG OF AUSTRALIA

"SONNY BOY" WATCHING THE EAGLE, THE AMERICAN NATIONAL EMBLEM

THE KING OF BEASTS—THE BIG CAT FROM AFRICA

more than an "artistic success" involved, and material things do count in this commercial age.

It may be argued that the very motif of the "Sonny Boy" pictures make them distinctive and in a very different class from the sort of illustrations that are required for the general run of fiction, and that photography has been tried and found wanting in numerous other instances. But this does not disprove the fact that success may still lie ahead along other and even more ambitious lines for the determined photographic worker, and I cannot help but feel that the success of my own little book registers a step forward, at least.

It is becoming a noticeable fact that a number of the leading magazines, notably some of the recent numbers of the *Cosmopolitan*, are beginning to use photographic illustrations for articles and short stories that compare very favorably with other pictures in these periodicals; that the illustrated weeklies long ago broke away from the custom of having pictures of the big news events of the month made by wash drawings and are now using photographs; the *Country Gentleman* uses many photographs for its covers; and that the large manufacturers who catalogue their products make use of photographic illustration reproductions almost exclusively.

The worker who seeks to accomplish results along these lines must do a great deal of experimenting; he must expect success only after repeated failures;

he must learn through practical tests to select the proper apparatus, and to settle mooted questions to his own satisfaction by practical experiments. The discovery of previously unknown facts and truths in the course of his work, with no precedent to guide or warn, will make the character of such an investigation novel. The number of persons capable, through experience and by intelligent pictorial work, to fit themselves as camera illustrators has, until the present, been remarkably small, but today we are emerging from the chrysalis stage of being a nation of kodakers to that of pictorialists and under these circumstances much should be accomplished.

Individuality must express itself in photography as in every other artistic line. There are no hard and set rules in, for instance, the photography of animals, by which means I illustrated "Sonny Boy's Day at the Zoo." The animal pictures were selected from about two thousand wild animal negatives I made, which goes to show that zoo photography is by no means a simple matter. Not that there was any particular danger in going into a cage with these creatures, especially as a stalwart keeper stands by your side with a stout pick handle grasped in his right hand, but the animals have to be induced to "pose." One who has ever tried to make a hippopotamus "look pleasant, please," knows the meaning of hard work.

I got splendid negatives of some of the animals the very first try; others were finally secured after much difficulty, and I exposed numberless plates on the llama, the axis deer and others before satisfactory negatives were obtained. The big grey timber wolf persisted in licking the lens of my camera, and cuffing his ears made him more affectionate. What particular sweetness my Cooke had I have never been able to fathom, but I do know it needed a lot of polishing after every endearing demonstration by Lobo. The wart hog conceived a weird fascination for my shoes and would make a sudden dive toward them every time I had him set in his characteristic attitude of kneeling. Other animals paid not the slightest attention to my entrance into their corral until I produced the camera, and then they immediately reverted back to the startled creatures of the wilds.

Hours were spent on different subjects, for animals cannot be successfully photographed by promiscuous snap-shotting, and working through the bars is next to impossible, for the creature upon which you focus your lens simply will not stand in the right spot. You have to be where you can approach or back off as you please; maneuver your subject to the right or left, and select the pose when the resultant image will show that you are photographing a quadruped; a three-legged animal is not a vagary of Nature, it merely shows up the photographer.

My equipment was a reflecting type of camera and I doubt if successful animal photography can be accomplished with any other style. The one I employed was a 4x5 Hall Mirror camera, selected for the hard usage the metal box will stand either on hot, humid days or when the temperature is below zero; and, without a single instance of shutter binding, my instrument has seen continuous service for over four years in both the snows of the north and the grilling climate of the lowlands of Louisiana.

The lens through which the "Sonny Boy" illustrations were taken was a

"BALDY"—THE CHIMPANZEE

"OLD MONARCH"—THE LION

Cooke, f-6.3 anastigmat, six and one-half inch focus. I like to use a short-focus lens, one that will give plenty of detail even when used wide open, for such a negative can afterwards be enlarged or "fuzzygraphed," if such a course of treatment to a perfectly good photograph is desired. My zoo exposures did not call for the one fifteen-hundredths of a second the focal plane shutter is capable of doing, for better results in animal photography can be obtained on the low speeds. The lion, tiger, panther and a few others were photographed in covered cages at one-tenth of a second, the camera being held in the hands.

For plates I used no particular brand, Stanley, Vulcan, Seed, Sigma, Barnett and Imperial all being given a chance to prove their worth. Since the time I made the zoo pictures, I have become a convert to the use of non-filter plates, using the Imperial brand almost exclusively. Those having non-halation qualities are to be preferred, the slight difference in cost being amply justified by the improved quality of the result. Being a devotee of the tank system, all my zoo negatives were so developed, with Duratol. The prints supplied the engraver were also developed in this excellent agent and on Professional Cyko, glossy; a few negatives demanded a harder emulsion, and on these normal and contrast Cyko were employed.

In most of the single poses of the animals, the bars showed back of the subjects, and, so as to make the animal the predominant figure, the negatives were opaqued and clouds printed in. This was not only because it improved the pictorial quality, but also because of the educational feature that I felt must be strongly presented in a book of this kind.

The making of "Sonny Boy's Day at the Zoo" was a pleasant task and its success is merely proving an incentive towards future work. That the illustration of books by photography is only in its infancy, the developments in the next five years will prove conclusively.

The Demonstrator Talks

By Charles R. Ogilvie

Mr. Trabold told us, in an excellent article in a recent issue of this, our favorite magazine, just how to run a post card studio so as to make a success practically assured. But he told the regular studio photographer something else, told it between the lines as it were, and for fear some of them did not get the big truth that was somewhat hidden, let me explain. A vacant store rented at a low rate until a regular tenant comes along, some burlap partitions, a cheap outfit, some home-made accessories, negatives developed mechanically and to last only while the order is printed, no retouching and immediate delivery for cash, permit one, working himself with a low-priced assistant, to make money, and no doubt good money, turning out post cards. But take these requirements and check them up with the conditions that prevail in the ordinary portrait studio and one will see why the regular professional is making a mistake in trying to compete in that particular line. Some studio men figure that the work "fills in" and should not be charged with its share of the running expense, expenses that would go on in any case. But does it "fill in"? Isn't the post card customer just as likely to be taking up the time of the receptionist or the operator when more profitable customers are entitled to attention as at any other time? And is not a customer now and then lost by reason of his turning to a few cheap post cards as answering his purpose when an order for the regular work would have been placed had the post cards not been at hand? And do one's better class of customers care to have it known that their pictures were made at a studio that also turns out post cards for anybody that can pay the small price, without regard to creed, color or previous condition of servitude? It doesn't pay; it can't be done. No wonder we find an advertisement like the following, which recently appeared in a Fremont, Ohio, paper:

> "A careful study of our 1913 business proves that upon portrait post cards we have LOST money. For this reason, after the sale which we have advertised for this week (eighteen post cards for ninety-eight cents), we will discontinue making portraits on post cards. The Finch Studio.

And another phase of the question comes to mind as I recall a little incident that happened in one of our interior cities, a city that, though small, serves several outlying smaller towns with a good share of their luxuries at least. A rather diffident young man came into one of the popular studios to look at samples and inquire the price of pictures. The proprietor, acting as his own receptionist, assumed from his caller's backward air and disregard for neatness in dress that he was interested only in cheap work, and confined his efforts closely to that kind. Calling at another studio a half hour later, I found the same prospective customer on the same errand with the proprietor this time dilating upon the merits of his highest priced pictures. The result of this seeming inconsistency was an appointment for a sitting from the gentleman for himself and his intended bride, the order to be for a generous quantity of the photographer's best work. I learned that the unassuming young man was the son and heir of a wealthy rancher who could have bought out all the studios in the town and hardly missed the coin. Appearances do not always indicate the post card customer; only the making, or not doing so, of that grade of work will separate the two classes.

And this handling of backward prospects calls up another situation that had a lesson to convey, another situation in which a prospective customer figured. This time it was a maiden aunt who had appointed herself a committee of one to arrange for the taking of pictures of the several members of the family that enjoyed the honor of her kindly offices. Samples were shown and prices quoted without much apparent success in the way of an actual appointment. At that particular stage in which the talk seems to lag and yet the direct request for an appointment seems to be rather risky, the proprietor asked if she would not do him the favor of looking through the operating room, as it was vacant at the moment. The result was that only the operating room was inspected, but the finishing and other rooms as well. The lady went away with a feeling of acquaintanceship with the place and its proprietor, and that the sittings were made there goes without saying.

And this reminds me of a bad slip another photographer made in dealing with a spinster or rather less than the usual allowance of feminine charms. In making a dozen pictures for her there was wasted just as little effort as the law would allow, the proprietor being somewhat interested in getting her out of the way for some more promising subjects that were expected at any moment. But it turned out, later, that this overlooked opportunity to be painstaking and agreeable, in a direction where it would have been appreciated to the full, resulted in several lost orders. The lady happened to be the "Aunt Ellen" of a bunch of sweet girl graduates who had promised all their chums pictures as soon as they got home and could have some taken. "Aunt Ellen's" ill success and her report as to the treatment received decided them upon the other studio in the town.

And talking about girl graduates enables me to bring in the subject of school and college pictures, class pictures they are called. I have found studios doing a nice class of work and priding themselves on the quality of their regular output, turning out these pictures in a manner that would make Daguerre weep scalding tears if he saw them. Two or three photographers will compete for these pictures, with the result that they are undertaken at a price that permits of no profit except on the most slipshod work; poor lighting, little or no retouching, indifferent printing and a warped piece of cheap cardboard for a mount. That combination makes for a nice lot of samples of one's work to be distributed amongst a lot of representative young people leaving school to take their places as members of the community, a little later as men and women of family and perhaps of much influence in some cases. The photographer should either pocket the loss incurred in turning this work out as well as he possibly can, charging the amount to advertising, which it really is, or else refuse to touch it at other than a price that will pay a profit on his best efforts.

And another angle on this same subject, a story that was told me some time ago. Two young ladies came in to have a sitting, explaining that they were about to graduate and had promised pictures to their friends. But the receptionist advised them that they would have to go to the other studio, explaining that the competitor had secured the class work by making a lower price. She did not know that these young ladies had already been shown proofs from the "other studio" and had come to this one in hopes of getting better work. Here was an excellent opportunity of showing the entire class how much better work went out from the studio in question than that turned out by the "other studio" which had secured the work. The young ladies were ready and willing to pay a good price for pictures that met with their approval, an approval not granted the pictures made by the man who had secured the class work.

And then there is the wrong attitude that many photographers, particularly those in school towns, hold in the matter of doing amateur finishing for the pupils and others. They figure that because the small dealer buys his paper at wholesale it is impossible to compete with him. This amateur finishing is a line that is really "fill in" work. Handling it does not inconvenience the regular patrons as does post card business, the finishing can be done in spare time, the class of people brought to the studio is good, and the reputation that can be earned by displaying a little kindness and interest will bring many orders for portraits "made by the photographer" instead of the enlargements from kodak snaps that the local druggist insists are so pleasing,—because he wants to sell the enlargement. One photographer that I know practically built up a handsome home-portrait business through explaining to his customers in the amateur finishing business that he would be only too glad to make pictures at their homes and at the same time give them a demonstration showing how they might secure quite satisfactory little pictures with their own cameras, though of course not up to the quality possible with his own portrait lenses and professional equipment. True, he did help some of his customers to make quite pleasing little pictures, but in reality he could hardly do more than hurt the business of the post card man or the maker of other cheap pictures as long as his own home portraits were well and carefully handled.

And for home portraiture the new portrait films are just the thing. Home portraits are mainly interiors with a figure included, and the speed and nonhalation quality, to say nothing of their lightness, makes them ideal for this class of work. I have seen portraits made directly against a window, a most charming effect if well done, and the use of the portrait film had almost entirely prevented the halation that would have resulted from the use of an ordinary plate. If one is going in at all for this class of work, either interiors alone, interiors with a figure or figures, or home portraiture, these new films should be given a trial.

Do not be influenced by proverbs or old saws. There is one to justify every weakness. They are like the old-fashioned candle extinguisher; you can very tidily and decently put out a candle with one, but you can't light it.

Preserving Photographic Magazines

By E. Wesley Lidaker, I. P. A. 3523

With Illustrations by the Author

Editor's Note.—*This article was written, and the illustrations made, during the process of binding up the* 1913 *issues of* Camera Craft; *the author, a busy man, having only spare moments to devote to the work. While no apology need be offered for the explicit instructions so well detailed in proper sequence and so clearly pictured in the reproductions, we feel that the reader should know of the disadvantages under which the pictures were taken as a mere matter of justice to the author. Mr. Lidaker advises that some were taken indoors, others with the subject placed on the brick wall of a court, and still others on a stone window ledge; in fact, wherever a passable lighting could be secured, as the work progressed, during the early or late hours of daylight available therefor.*

In bookbinding, in this case magazine binding, as in any other accomplishment, to achieve results, the thing of prime importance is to "use your head." This, of course, applies only to the amateur, the one who, although unqualified in the bookbinding art, wants to preserve his magazines in a neat, compact and substantial form. All that the writer knows concerning bookbinding has been gleaned from two articles on the subject in Camera Craft; one on page 564, Volume XIX, and the other on page 69, Volume XX; that is, December, 1912, and February, 1913. With this information, supplemented by the knowledge gained in dissecting the anatomy of a few well-made books in order to see how they were made. Thus equipped and of course having a desire to "preserve his magazines," the writer set about the work of binding up his accumulation of the latter, acting upon the principle advised above as important.

The sewing frame is the most important accessory required; in fact, it is practically indispensable. However, it is an inexpensive contrivance that any one with ordinary skill can make for himself; and, as so doing is not a part of the work entering directly into the modus operandi of bookbinding itself, its construction will be here described as a kind of forerunner to the matter of bookbinding proper. Fig. 1 shows, in the accompanying illustrations, the writer's own, made to comply with his individual fancies. It is of well-seasoned ash throughout, but any other hardwood will do as well. The base is 8x18x1⅜ inches thick; the crossbar, eighteen inches, and the uprights, eight inches long, are all of 1⅜x2 material, the latter being set, with glue, into two receptacles cut for them and reinforced with long nails or screws. The crossbar has two corresponding half-inch notches cut in its under edge and these receive the upper ends of the two uprights, giving a space of six and one-eighth inches between the baseboard below and itself at the top. This space is insufficient to allow of the entire surface of the leaves being thrown up against the crossbands to which they are being stitched, yet it is sufficient to allow of easy sewing. The purpose of having the space so narrow is to permit the crossbands to be kept as short as possible. This is obviously desirable, since, in sewing up the leaves, the bands, and especially those at the ends, have a tendency to "run together." The less the space the shorter the bands, with a correspondingly less inclination on their part to this fault. The eleven inches between the two uprights should be divided, by marks on the back of the baseboard, into intervals of one inch and ten short, heavy wire brads driven in, one at each mark, leaving them out far enough to permit of the crossbands being fastened thereto. Drive ten brads, corresponding with these, in the back of the crossbar about half an inch from its lower edge. The "bench" is now ready to be "threaded up," but this will be explained later. The other tools mentioned as being required are few and simple.

The first step is to take the magazines to be bound and remove the covers, saving one of the cleanest and most pleasing of the front ones for possible use as an embellishment to the otherwise rather plain cover of the binding. Pull out the wire staples in the backs, and, if so desired, relegate the advertising sections to the waste basket along with the covers. However, a good plan is to retain the advertising sections of the last or December issue and place them in their natural position at front and back of the book. These advertisements will comprise the announcements of all the magazine's regular or permanent advertisers and these are all that will be found worth considering for permanent reference. The well-thought-out division of reading matter and advertisement into separate sections makes Camera Craft the best possible magazine for binding, as it divides clearly into complete sections, avoiding loose, troublesome single leaves. Take the selected sections and carefully scrape off all scraps of glue that adhere to their backs. A good way to do this is to open the section out flat, back up, and with the blade of a knife rub down the glue, much as a mason spreads mortar, after which it will scrape off very readily. Next, the frontispieces and any other loose sheets must be given a narrow edging of thin glue and gummed down to the back of the section immediately preceding or following them. Use liquid glue; it costs no more than ordinary paste and allows of much neater work, as one can run a strip of even less than an eighth of an inch in width along the back margin of a leaf and it will hold firmly. To do this, proceed as follows: Place a newspaper on the table, then the leaf, and on top of that a piece of paper with its straight edge leaving an eighth of an inch of the leaf uncovered. Apply the glue to this uncovered margin, rubbing it out as thin as possible, and then attach to its proper section. One should be very careful not to lose or misplace any of the leaves or sections at this stage, keeping them arranged in consecutive order with the title page and contents table, published in the December issue, properly placed.

The work is now ready for the saw kerfs, the grooves cut across the back of a to be bound volume, into which the crossbands fall in sewing up the book. Bear in mind that these saw kerfs must correspond with a part or all of the

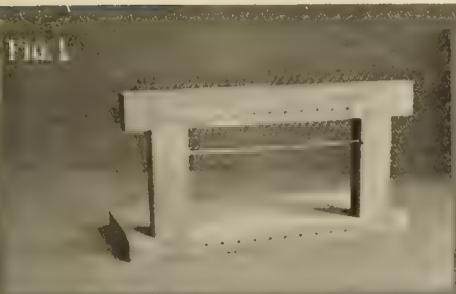


Fig. 1

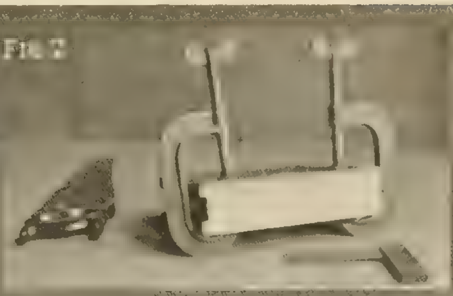


Fig. 2

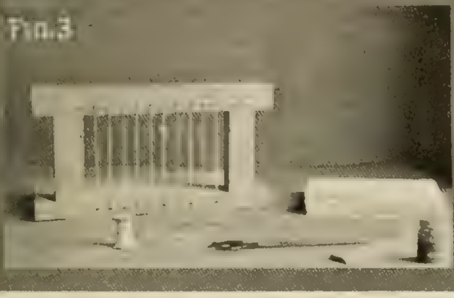


Fig. 3

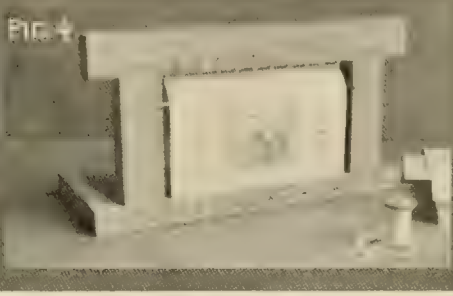


Fig. 4

pins on the back of the sewing frame. While a less number will suffice, the writer makes his at intervals of one inch, so doing making a firmer binding with the work but slightly increased. Even then a volume such as a year's issues of Camera Craft makes can be sewed up in two hours. If fewer cross-bands are thought sufficient, one can skip every other pin in threading the bench and make the saw kerfs two inches apart.

Take the bunch of orderly arranged sections, strike or "joggle" on a flat surface to get the backs and tops perfectly even. Then, with two four-inch

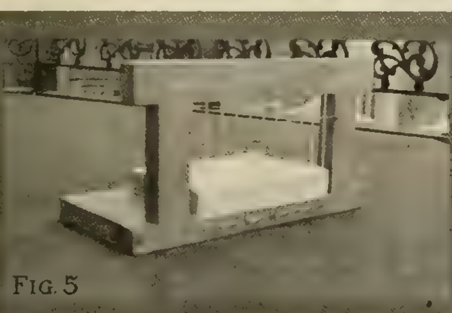


Fig. 5

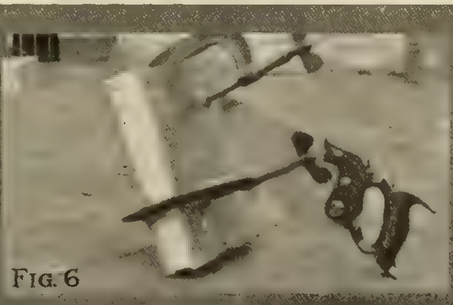


Fig. 6

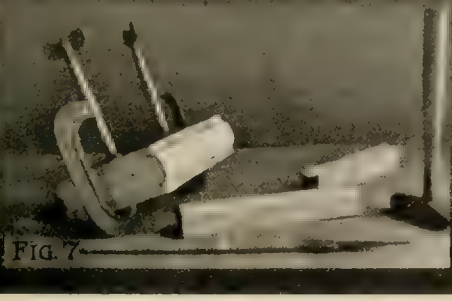


Fig. 7

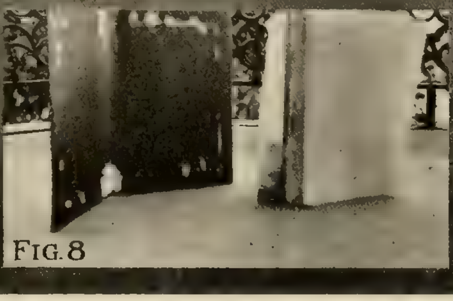


Fig. 8

metal clamps and two clean hardwood boards about the size of the magazine, put the sections under pressure as shown in Fig. 2, by placing a board on each side of the pack, and, without altering the even position of the sections, place a clamp at the top and one at the bottom and screw down firmly. Using a common try-square, scribe across the back of the book, at intervals to correspond with the cross-band pins to be used on the back of the sewing frame, being careful to mark the kerfs at top and bottom of the book only half an inch from the end, the other kerfs being at regular intervals of an inch, lastly sawing across at these scribes to a depth of about an eighth of an inch. Remove the clamps and boards, place the pack of sections, with the title page down and the last page uppermost, conveniently on the right of the bench, and all is then ready for sewing.

To thread the bench, take a spool of Barbour's best linen thread, fasten one end to the lower left-hand pin, pass up and over upper left pin, pass to the right under second pin, throw over pin and down to second pin below, pass to the right over top of this pin, around and up to third pin at top, continuing until the lower right-hand pin has been reached, Fig. 3, tracing the thread in an inverse order back to the lower left-hand pin and repeat both threadings, making the crossbands four-ply. Keep the thread as taut as possible without breaking and always keep perpendicular part of the threads on left side of pins. If the thread be passed along outside of two pins at top and along inside of the corresponding pair below, the crossbands would be further apart at the top than at the bottom and would therefore fail to fit into the saw kerfs.

Placing the bench as shown in Fig. 4, put the first section, the front fly leaves, on the baseboard with the saw kerfs fitting against the crossbands; throw up the upper half of the section and pass a long upholsterer's needle or hatpin across the front, resting it upon a couple of tacks or hooks on the uprights of the bench, as shown. This last is used to hold the sections open to facilitate sewing. Fasten the end of the sewing thread to the bottom of the left crossband, pass the needle in through the end kerf or "kettle hole" to the inside, pass on to the second kerf and band, out on the right side of second band, around this and back in on its left side, on to third kerf and band, out at right side, around and back in on left side as before, continuing on in this manner until the last band is reached. Withdraw hatpin, allowing the upper half of the section to fall into place, put on second section, and sew the same way except that in so doing one is working back to left side. Proceed in the same way with remaining sections. As each section is sewed in, press down on each side of each crossband, using the thumb nails or some simple contrivance for the purpose; this keeping the work run closer together and more compact. Close watch should be kept on the order of the pages to see that they are numbered in rotation without omission, the last section again being fly leaves, Fig. 5.

Cut the crossbands from pins, leaving ends as long as possible, place book again in the clamps and screw down firmly, keeping back perfectly even, with boards away from back about a quarter of an inch. Tie the crossbands together across back of book, and then set; that is, cover the back with good liquid glue. Apply a strip of cheesecloth, cover this with paper and beat down, making a substantial, rigid back, keeping book clamped tightly meanwhile. Scrape off loose paper. Scribe the size of the book on the two outer sides of the retaining boards, being careful to have all perfectly square, with sides and ends parallel, and then, with a good sharp hand saw cut off these margins at top, bottom and front, Fig. 6. Polish edges with a rasp and sandpaper, still keeping book in the clamps. One must next provide himself with two hardwood blocks, one having a convex and the other a concave edge, Fig. 7. Then rest back of book on concave block, place convex block on front of book; and, with a heavy hammer, beat down from front to back. This shapes the book, giving the back its convexity and the front its concavity. The work is now ready for the cover. Trimming the edges of the book by means of a hand saw being rather slow and tedious, one can take the volume to a printer, who should gladly do the work for five cents a cut or two volumes for a quarter; doing this, of course, before shaping as described.

To arrange and apply the headbands, take a strip of best coarse linen, the width of the back and about two inches longer, and across each end place a piece of coarse wrapping cord, cut to a length equal to the width of the back, spacing them about a sixteenth of an inch further apart than the height of the book. Bring ends of the linen strip over these cords, and fasten down with glue, thus forming the headbands. Again cover back of book with glue, and apply these headbands, allowing ends of the covered cords at top and bottom to extend slightly beyond back of book. To make the cover, take two pieces of heavy cardboard, heavy mount board answers admirably, and cut them about the same width as the book, but about a quarter of an inch longer. The covering, be it cloth, buckram, sheepskin, or leather, should be cut to extend about an inch beyond the edges of the two cardboards as they lie out flat with space for the back between them. Cover one side of one cover board with good liquid glue, place in proper position on covering and rub down firm and smooth, doing the same with the other, being very careful to get both cover boards properly spaced to allow for good fit around back of book and for hinges at the sides. Before setting these cardboard sides, or covers, it is best to put in the reinforcement of leather or other suitable material that gives stiffness to the back, as the cover boards can then be better fitted. One should miter the corners of the covering material so that it will not overlap when turned down on inside and secure with glue. It is this making of the cover that tests the skill of the amateur bookbinder, and all care should be taken to have everything fit neat and smooth. Apply clamps and boards, and compress firmly; not neglecting to face each cover with a sheet of paper, supplemented by some powder shaken in, to keep them from sticking to the latter. When the covers are set, take another strip of linen about two inches wider and some-

THE WORK OF BINDING IN PROCESS

what shorter than the back of the book, glue in position and rub down, allowing the surplus width to extend over about an inch at each side. When this has set, cover first page of fly leaf and the front overlapping linen strip with glue, place book in position, rub fly leaf and strip against inside of cover, and then treat the other fly leaf and cover in the same way. Again place book between the boards, apply clamps, and compress firmly, seeing that the back edge of the boards extends only just past hinges of cover; and, when doing this, place pieces of straight, medium-sized wire outside and along back of book where covers hinge. This will crease that part, give the book a better appearance and make a neater hinge. Be careful in the use of glue to see that no undesirable parts stick together. Shake some powder betwen fly leaves and covers and between covers and press-boards. Do not fasten back of covers to back of book, but keep them separate. Examine the work from time to time to see that no parts adhere to each other where they should not do so. When covers are set, remove clamps and boards.

If it be desired that the edges be gilded or colored, bend back the covers, place the book part between the boards and clamp down firmly. Size the edges and apply the gilt or color. Or compress the whole book after placing sheets of paper between covers and first and last fly leaves to act as fenders while sizing the edges and applying gilt or color.

For a neat, appropriate and ornamental finish to the covering, nothing excels the trimmed covers of the magazine itself. Apply first page cover to front, and fourth page cover to back. By taking a piece of thin cardboard cut exactly the same size as one of the cover cards, but with an opening cut in its center just a trifle larger than the trimmed part of the magazine cover, and gluing this to the cover card before covering, a panel can be pressed down therein in which the trimmed magazine cover can be glued, thus preventing wear of the printed title such as would result were it placed on the flat surface. The name of the magazine, the volume number and the editor's name can generally be found on some discarded pages and these should be cut out and glued in proper position on the back. It then only remains to wipe off any adhering powder or other foreign matter and place the volume in library with other well-made books.

The Part Personality Plays

By Geo. D. Jopson

With Illustrations by the Author

While the outlines of this article were in progress, there came to the desk of the writer a letter from the Editor, accepting the first instalment of "The Part Personality Plays," and saying, in part, "The bringing in of personal experiences and commenting thereon is very much better than would be the plain statement of your ideas, the latter tending to seem too dogmatic with a subject of this kind."

When I first started in the photographic business a quarter of a century ago, if I could have had heart-to-heart talks with the photographers of that day, covering their experiences, it would have saved me half my struggle and worry. In those days the personality of the average photographer was based on a "dog eat dog," "I know something but won't tell you," mental attitude. That sounds kiddish, I hear you say. Well, to hark back to those good (?) old times at this late date it seems to warrant even a stronger word. In good, plain United States language, it was nothing short of hoggish, this personality the photographers displayed. Today the mind of the photographer is more broad. He is not only ready to receive, but to give.

In relating personal experiences, as I shall in these articles, vain glory is not my aim, but rather a desire to help the sincere and ambitious plodder. From these experiences I have learned many valuable lessons; and, passing them on may help others to avoid dropping into pitfalls. My desire is to give the young photographer of today that which would have been of value to me then,—hints dealing with matters connected with our profession; trying to use plain language just as if I were talking face to face with him.

This time it is the personality of the photographer which we will consider. While it is important that the photographer concern himself with the personality of his sitters, he must himself possess a personality that will appeal, else he will never succeed in bringing out the desired characteristics or perpetuating them in his portraits.

The outside showcase betrays, to a certain extent, the personality of the photographer. It is a habit with some to make a large, imposing showing there, a showing so large that a sufficient number of suitable samples can be gotten together only at rare intervals. I do not care who the man may be, what the quality of his patrons may be, I claim that only twenty-five per cent of his work is suitable for an outside display, and if you carefully think it over, I am sure you will conclude that I have rated it too high at that. I make it a point not to have over a half dozen pictures in either one of my two outside cases at a time. I find that if a change is made in either one or the other of them at least every other week, the public will take notice and forms the habit of watching to see what will be shown next.

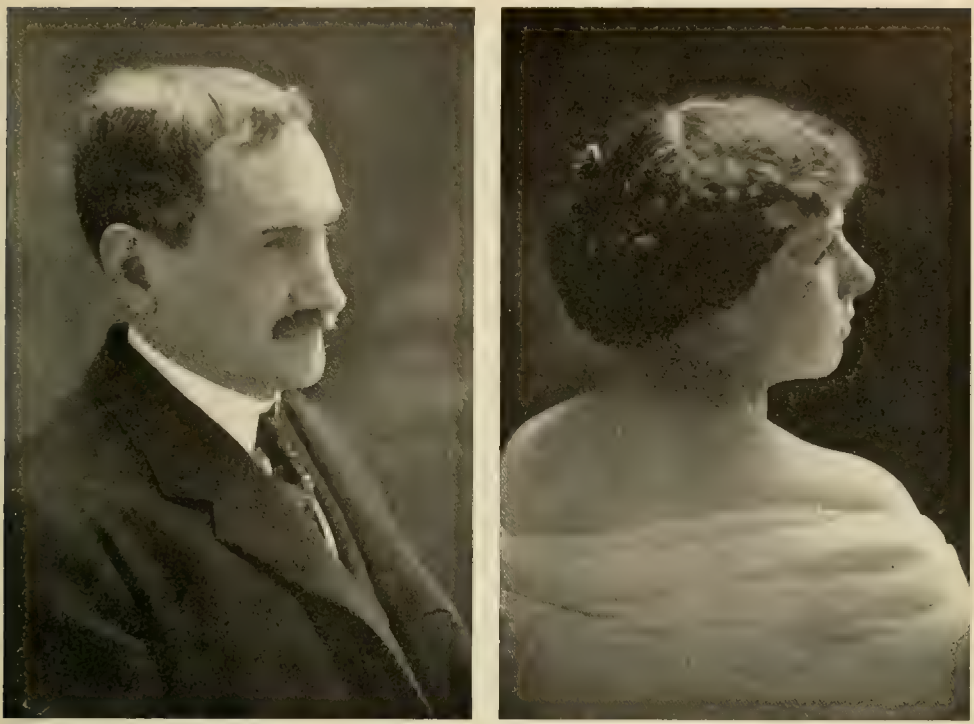
The personality of the photographer, as shown in his showcase, has its effect upon the public. Should the case contain a half dozen cabinet size prints, next change to a couple of large prints or a couple of framed ones, and so on. Versatility in the display attracts attention, and the more interest there is taken the greater will be the demand for one's work. And another pointer about that showcase: Don't you know that it is worth dollars to you to spend five minutes, six mornings in the week, polishing the glass? And one more very important showcase pointer: Never put a picture on display without first obtaining the consent of the subject. If a child, consult the wishes of the parents or others interested. Many good customers have been driven from studios by the failure of the photographer to consult them in a matter of this kind. Every person educated to have full confidence in a studio will become a booster for the business, always ready to say a good word when opportunity presents.

The next impression of the photographer's personality is received in the reception room. I find that a display of carefully selected pictures, harmoniously framed—by that I mean with frames that do not cry out for recognition, but are subordinate to the picture—is more effective than a lot of loose, soiled pictures lying in a promiscuous heap on a table or counter. The loose sample pictures should be kept out of sight, each grade of work by itself. When one shows the different grades, the opportunity for easy comparison has a very good effect upon the minds of one's customers, with the gratifying result that they have a better idea of and are more favorably impressed with the better grades. A jumbled, haphazard display has a tendency to both bewilder and disgust a prospective customer.

A good vacuum cleaner costs but little. It causes little or no dust, it cleans the rug or carpet more effectively than a broom or a carpet sweeper, and one should be used every morning, followed by a dust cloth. First impression, based on the degree of neatness displayed, hinders or advances the placing of a generous order.

Greet your customers with hospitable respect. If you have just left your dark-room blue with some remarks not fit even for yourself to listen to, lock them up there. Do not let your customer know, or in any way feel, that you are in a bad humor. Once in a while you will be compelled to deal with a crank. That is no reason why you should act the part of one. In a future "Personality" contribution I may deal with some of my own experiences with customers in the reception room, the place where we are all privileged to meet, amongst others, some of these cranks. We should console ourselves with the knowledge that the crank has his or her mission to fulfill. If we did not occasionally have them to deal with, we would fail to realize the real worth of the "sunny sides."

The same commendable personalities that one tries to display in the outside showcase and in the reception room should also be made to dominate the sky-light room. One's personality, as shown in his conversation, his habits, his appearance and his choice of companions, should be attractive. A "shine" only costs a nickel and the shoe shiner can do a neater job than oneself. Besides,



TWO SUGGESTIONS IN LIGHTING AND POSING THE HEAD

if one be seen visiting the shoe-shining "parlor" each morning, the result will pay good interest on the investment.

A comb and brush should be kept handy to slick one's hair immediately after working under the focusing cloth and before waiting on the next customer. Neatness is achieved at the cost of some effort; but one should remember that his personality is at stake. It is not a necessity for you to hang out around hotels or barrooms; shun those places as you should shun a rattlesnake. If one thinks he cannot get along without smoking—well, for the love of Moses and his own good reputation, he should not walk along the street with a cigarette in his mouth, as its only result is to bring out an insipid expression. A couple of years ago I attended a convention at which one of the speakers was a man who had not only a Coast to Coast reputation, but one who was well known in the Old World. During his whole harangue, his attention was divided between his subject and a cigarette. A man in the audience called out: "No smoking allowed." A lady sitting next to me remarked in an undertone to herself: "Humph! that man is a fool." I took the matter up and replied: "I beg pardon, but upon what do you base that opinion? Don't you know that that is Mr. —— who is addressing us?" "Yes, I know it. I am disgusted with him. I expected something different. I came to this convention for inspiration, not to be one of many to be insulted by a vapid cigarette fiend. I am going back to the exhibits where I can find inspiration!" She left, and later in the day I again met her in the exhibition hall. She proved to a cultured, sensible woman and I found it greatly to my advantage as a photographer to be under her refined influence for the hour or more of our conversation.

The lesson is this: If a headliner can disgust a lady of the same profession by flaunting his cigarette habit publicly, what do you suppose the effect is upon the refined minds of your community? How do you think they appraise your personality? They will not tell you, but they are apt to tell others. If you must smoke, do so in private; not in your studio, for your patrons are mostly of the gentler sex and too much tobacco smoke is offensive. A true gentleman will never do anything that will prove annoyance to another person, especially a lady. If you cannot resist the temptation to smoke at all times, then visit your physician and ask him to paint your palate with nitrate of silver. Try a smoke after that; it is claimed the desire for tobacco is cured right then and there.

It will not harm you to be connected with one or two fraternal organizations or to display some activity in church work. Your personality will be judged by the company you keep; and, as the better trade comes from the more refined class of people, a refined personality is an advantage. The average lady would much rather trust herself, and especially her daughters, with a photographer whose personality is not objectionable, and a refined personality can easily be cultivated.

Profanity is worse than useless. Obscene stories and uncouth language degrade, both morally and mentally. If there is any profession upon the face of this earth that demands a clean mind, it is that of the photographer. The photographer should cultivate a personality befitting a man whose character is beyond reproach, a man to whom the people of a community can look with both respect and admiration and point to as Mr. "Sunlight," our photographer and one of our leading, or better yet, most respected business men.

Still another important point bearing on one's personality: Pay for everything bought, and pay spot cash. If one be a good business man, he knows what his bill will amount to when the order is sent in to the stock dealer and remit the cash therewith, taking every cent of discount coming his way. The dealer will appreciate it and will do everything in his power to help such a customer. If he does not, he should be dropped, as there are others who will. And never "hang up" a merchant in your own town. Pay cash; and, if you have not got it handy, refrain from buying until you have. These merchants will become your boosters; they do love a cash customer, love him as well as you do yourself. And always be sure there is enough cash in the bank to cover a check before writing it. Keep up your subscription for your photographic magazine. Failing to keep up to date will soon make one a back number. There is only one avenue through which the photographer can successfully keep abreast with the times, and that is through the photographic press.

One is apt to forget, in our day of widespread schools and colleges, that books are not the only means of education; that many men have learned, and still do learn, more by turning the leaves of the book of experience in their chosen trade than they would gain in the formal institutions established for that end. This is particularly true of the art of printing, as the elements of good expression and the thoughts of the best intellects are forced upon the minds of those who work at the composing-case.—Charles L. Nichols.

The Quality of Light

By Raymond A. Cogswell

EDITOR'S NOTE: *This article is the third of a series of five, the first of which appeared in our June issue, the second in our last, and the remaining two, dealing with The Problem of Exposure, and Exposure and Interpretation, to appear later. However, each is separate and distinct and not dependent upon any other. Mr. Cogswell hopes to awaken the average photographer's interest in the science that is just outside of his observation and reading. He himself has found the vistas that may be opened out from photography to be very interesting; in fact, he suggested to Hamilton Wright Mabie, some years ago, a plan whereby the camera could be made to share with the piano-player its value as a means of acquiring culture by those whose ambition and curiosity—and love of beauty—were sufficient to carry them forward, and Mr. Mabie elaborated this idea in one of his later articles.*

The qualities of light which have a bearing on photographic technique may be classed under five heads: Intensity, Color, Direction, Diffusion and Adaptability. This last quality will be considered in a subsequent article under a heading on which it will have bearing.

It is a matter of common observation that daylight varies through a wide range of intensities, depending upon the condition of the sky. The actual quality of pure sunlight must forever remain unknown; for, under the most favorable conditions of terrestrial atmosphere, there must be sufficient absorption to modify greatly the quality of the light as it exists in space. Under a clear sky and with the sun at the highest point reached in the day and in the year, sunlight is the brightest in intensity and the whitest in color of any light known. The color composition of daylight is approximately 4.5 red, 8.7 orange, 13.5 yellow, 20.5 green, 26.0 blue and 26.4 violet. These proportions vary as the sun approaches the horizon, the shorter waves being progressively absorbed with the sun's descent, owing to the increase in thickness of the atmospheric layer traversed, until at sunset practically all of the violet and most of the blue have vanished, leaving the light predominantly orange.

The media of absorption which have the most marked effect on the intensity and quality of the sunlight are water vapor, water, and dust; so that, in addition to the natural and regular increase in absorption due to the air as the angular movement of the sun proceeds, are the variables imposed by varying amounts of these constituents of the air.

The absorption by dust is directly manifested to vision as an actual stoppage of light, and makes no change in quality. In the case of smoke, however, there is the opacity due to solid particles of carbon and ash plus a selective absorption exerted by the tarry hydrocarbons of the smoke, which filter out much of the blue and violet.

Water exists in the atmosphere in two forms: as a gas and as a liquid. In the latter condition, it is in the form of minute drops, usually centered around a dust particle, but so minute as to remain suspended in the air. This suspended water may exist in amounts varying from the merest discernible haze to the blackest thunder cloud, for a cloud is nothing but a collection of such particles, and a fog is a cloud in which the observer happens to be immersed. The effect of such water is the same as that of dust: it cuts down the total intensity of the sunlight proportionately to the extent of the mist, but does not appreciably change its quality. Under ordinary conditions, water is turned into a gas (steam) at about ninety-eight degrees centigrade. Nevertheless, water exerts a distinct vapor tension even at temperatures below freezing, so that according to the laws of gases we should expect to find in our atmosphere some water in the form of a perfect gas, the amount depending upon the relations between the vapor tensions of the gases of the air and that of water at the temperatures considered; also upon the amount of water available to supply vapor up to saturation. To ordinary observation this water vapor is completely transparent, but in the large masses in which it occurs in the atmosphere it exerts a selective absorption upon the sunlight passing through it, cutting off the shorter waves much more than the longer waves of the yellow and red. The photographic plate being predominantly sensitive to the short-wave end of the spectrum will feel this absorption at once, even though it may not be manifest to the vision, which is sensitive to the longer waves that are transmitted with little loss. Thus as a result of this selective absorption an unsuspected change may take place in the quality of daylight. Such a condition actually obtains, for example, along the south shore of Lake Erie, where photographers coming from other parts of the country always over-estimate the amount of light in this "slow belt" if they judge merely by the eye.

Another instance in which selective absorption plays an important role is to be noted in the change of the photographic quality of light with the diurnal motion of the sun. From noon until sunset there is a progressive decrease in the blue and violet, but towards the end of the day this decrease is more rapid than the decrease of visual tensity. This is well known to photographers, but what is not so well known is that the color scale of both the photographic plate and physiological vision is altered thereby, and that consequently increasing the photographic exposure to get the desired chemical reduction on the plate does not entirely reproduce the visual conditions unless special precautions are taken. For example: An orange, which, under the open sky of daylight would reflect some blue and violet, would, under the evening light, reflect none of these colors (those affecting the plate most strongly), but would still appear to the vision as of nearly equal and probably, in the predominantly orange light of evening, as of greater brightness than at midday, while to the photographic plate it would be unusually dark. Much more might be said along this line, but this single instance will draw attention to the complex relations in which color and photographic intensity may become involved.

The direction of light has an important bearing upon both visual and photographic interpretation. We are accustomed to shade the eyes from the glare of the noonday sun, so that most of our observations on the outside world are made by means of horizontal light. The same conditions must prevail in the use of a lens: direct light must be excluded in order to avoid ghosts, and also as much of diffused light as does not pertain to the picture. The well-known artistic defect of overhead light with its spots of high light and its deep blank shadows brings us to the consideration of diffusion. Diffused light is the life of photography; we shall consider here briefly only a few of the physical facts regarding this quality of sunlight.

The sun's rays are parallel until the atmosphere is reached. Here, however, begins a bending and splitting up of the light which continues until the wave energy is spent or is sent off into space again. The upper regions of our atmosphere contain only the lightest gases, the hypothetical geocoronium, hydrogen, helium, etc. In this region only the very shortest waves are absorbed, probably waves of atomic dimensions; but as the stratum in which nitrogen (and finally oxygen) makes its appearance is reached, the absorption is more marked, and a certain amount of diffusion begins to take place, until in the lowest stratum, the region in which we live, this absorption extends to heat as well as light waves, because of the carbon dioxide and water vapor present, so that what is probably a good share of the original light is diffused in this region to form the luminous blue-gray of our "sky." (The blueness of the sky is now thought to be partly subjective.)

This diffused light of the sky is used by the photographer to light up the shadows of his subjects, consequently he is vitally interested in anything which affects its quality. Observations in regard to quality show that it may vary as much as thirty per cent, while the intensity may vary from the brightest noonday sky to nothing at all at the end of twilight.

The principal causes for variation have already been noted. In addition to these, local conditions often affect temporary changes in the quality of light, as, for instance, a large cloud overhead which happens to catch the yellow light of the setting sun and reflects it to the landscape as a diffused orange glow. Or, as a still more restricted example which often confronts the photographer, the red or buff face of a building may throw a light into his studio that is abnormally rich in orange and red. Under the open sky, the blue of the sky itself is reflected in the shadows, oftentimes in a way that was hardly believed before the advent of the autochrome.

All these variable factors can be controlled in the use of artificial light for photographic work, whether the illuminant be flashlight or electric light. The intensity is a direct function of the amount of flash powder or the number of electric lamps used, subject to the well-known law of universe squares in regard to distances. The color of the light is determined by the nature of the salts used to oxidize the magnesium, or by the kind of electric light selected for the illuminant (e. g., flame, magnesite, or mercury arc glow tube, or incandescent bulb). The direction and diffusion are determined by the position of the lights and the use of suitable diffusing and reflecting surfaces, according to the skill of the operator. A discussion of the technique of artificial lighting is outside the scope of this paper.

It is the artist's business to pick out the significant incidents from the chaos of daily happenings and arrange them so that their relation to one another becomes significant, thus changing us from bewildered spectators of a monstrous confusion to men intelligently conscious of the world and its destinies. This is the highest function that man can perform—the greatest work he can set his hand to.—Bernard Shaw.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—THE EDITOR.

USING THE MAGAZINES: For a number of years I did much as I find all other amateurs doing, namely, took several photographic magazines and read them all without learning much of anything therefrom. Then I decided to try a new plan. I took an article on some subject that interested me and worked out the process just as our old instructor in chemistry compelled us to do. If I did not succeed at the first trial, I went all over the work. I mastered that article and the process described if I had to follow the matter to the bitter end. And one great advantage of these articles in CAMERA CRAFT lies in the fact that they are all written by workers like ourselves who can be reached by a letter addressed care of the magazine. They invariably seem pleased to hear from some one interested in their work and they will give any additional advice or suggestions one may ask.—L. K. R., Ohio.

DEVELOPING UNDER EXPOSURES: Occasionally one is forced to deliberately and knowingly under-expose a plate through the light not being all that is desired to overcome possible motion of the subject. My plan is to develop these separately by first soaking them in a fairly strong developer and as soon as the film has swollen, remove and place in a tray of clear water, where they are allowed to remain for some time, perhaps half an hour or more. The theory of this practice is that the film takes up a certain amount of the developer and while that amount is enough to achieve all possible in the under-exposed shadows, if given time, it is yet not enough to build the highlights up to an undesirable stage of density such as would result if development was continued in the regular way. Occasionally, if examination shows that the highlights have not achieved too much density after a reasonable soaking in the plain water bath, the plate is given another immersion in the developer and returned to the water for a further period. Some years ago I read of a similar method based on putting a clean glass in contact with the developer-soaped film and allowing development to continue with the developer thereby cut off from renewing itself. This I tried, but found open to the objection that the developer, being so confined, exhausted itself near the margins of the denser portions and the resultant prints showed a dark halo around the strong highlights.—C. B. Lockwood, Ohio.

MAKING SILHOUETTES: At a recent church function we cleared quite a neat little sum by erecting a booth in front of a door that led into a small locker room, and advertising by a quaint sign that "Old Fashioned Fotos" were made within. The door opening was covered with a white sheet and an assistant in the small room fired a small charge of flash powder behind the sheet at about the height of the sitter's head, at a given signal, generally a tap of the operator's foot. The sitter was posed fairly close against the sheet; and, as her outline was plainly visible to the assistant within the small room, he had no difficulty in being ready for the signal and in firing the powder at the right height, although not too close to the screen. A quick, strong-working developer and the prints made with a thin sheet of celluloid between the paper and the negative to avoid the necessity of washing and drying the latter, allowed us to turn the prints out quite rapidly.—L. C. H., Minnesota.

FOCUSING THE FILM CAMERA: When on a photographic trip, one sometimes wishes most earnestly for an opportunity to test his focus on a particular subject rather than depend entirely upon the focusing scale. This can be achieved by the simple expedient of carrying with one a developed, fixed, washed and dried film that was previously fogged so as to have a somewhat greyed emulsion. This should be wound on an empty spool and always carried with the camera. One then only has to insert it in the camera in place of the regular film and wind it tight. Of course the camera back is removed and one's coat or hat can be used to shade the greyed film for examination of the image. This can only be used between regular rolls; but if one be using six exposure spools, he can generally move on until the remainder of a spool has been exposed and then return to the subject on which it is desired to focus by means of the film. A refinement of the plan is to buy a piece of thin celluloid with a ground surface, and with some glue such as moving picture houses employ to mend their films, insert it in the center of a short length of old film.—C. B. H., Iowa.

WHITE BORDERS ON PRINTS: Cut two strips of black binding paper the width of the white border wanted and gum them along the top and left side edge of a 5x7 glass. Measure off the width and length of the desired print and stick on two more strips parallel with the first and at the proper distance therefrom. Take the printing frame and cut away the beveled rebate in that corner until it is of a lesser width than the black strips. Then all you have to do in loading the frame is to shove the glass close up in that corner, do the same with the film and paper and there is no trouble in looking through the negative to see that it is rightly placed and in doing the same with the paper. Furthermore, there will be only two sides of the prints that require trimming, as the side and top fitting into the corner of the frame will be of the right width of border every time.—F. G. Umberhine, Massachusetts.

WASHING ROLL FILM AT HOME: Secure an ordinary dish pan which will set into the bath tub or sink and a piece of half-inch rubber hose about three feet long. Take an ordinary wooden film clip and attach another to it so that its jaws are at an angle to the first. With the hose on the faucet and the other end in the pan, attach these clips to the free end so that one of the clips will be parallel with the stream of water issuing therefrom. By placing the film in the jaws of this clip, the water will keep it stretched out and in constant motion. As the film is held stationary at one end, there will be no danger of scratches or incomplete washing, if the pan is of sufficient size.—A. I. Crowther, Ohio.

THE RIGHT PRINTING DISTANCE: We are told that the printing frame should be a distance from the light equal or greater than the diagonal of the plate, and we all know that it insures uniformity to have the frame the same distance from the light in making a number of prints from one negative. To insure both, I took a birch board ⅞x10x18 and in the center of one end attached an electric light socket with an extension cord, using a 100-watt tungsten lamp. I next drew nine lines across the board, one inch apart, beginning at seven inches from the light. The first line gives me the position for correct illumination of a 4x5 print, and when I make larger prints I simply move my frame back from the light according to the size, thus securing the proper distance without guessing or measuring each time. For a 6½x8½ print I place the frame on the line marked 12 and get good results. Exposures vary from three to twenty seconds according to the density of the film.—J. F. Wohllet, Ohio.

REMOVING HALATION: It is, of course, better to prevent the appearance of halation than to place one's trust in a method of removing it, but where it is sometimes desirable to be able to remove it, much can be done in this direction by following out this plan. First bleach the negative in the following:

Water	10 ounces
Potassium bichromate	80 grains
Potassium bromide	40 grains
Nitric acid	½ ounce

When bleached, wash well, plunge several times into a saturated solution of alum; and then, after a further rinse, redevelop in any good pyro developer that is well restrained with bromide. The developer acts solely upon the upper surface of the film, not reaching the halation next the glass, hence it is only necessary to secure sufficient density and then fix and wash as usual.—L. M. H., California.

CLEARING BROMIDE PRINTS: Surface markings, slight fog, and yellow stains on bromide prints can often be removed by placing them in the following clearing bath:

Water	10 ounces
Thiocarbamide	20 grains
Citric acid	10 grains

The prints must be thoroughly washed before using this bath, which has a slight reducing effect upon the image.—S. W. B., Maine.

PHOTOGRAPHING FLOWERS: Flowers may be beautifully arranged and photographed on a plate of glass supported horizontally about a foot above a suitable background—a maroon or olive tablecloth, for example; the camera supported on a framework in a vertical position, of course. Another satisfactory way is to interlace or fasten them to wire gauze stretched on a frame—an ordinary window screen will do—with a suitable background behind. For really excellent work of this kind, orthochromatic plates and color filters are necessary. —J. A. S., Illinois.

CAMERA CRAFT

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Photography at Our Coming Exposition

While applications for space in the Photographic Section of the Department of Liberal Arts of the Panama-Pacific International Exhibition are no doubt being made in sufficient numbers to assure a good exhibit, all who have the interest of our art-science at heart should do everything possible to the end that photography be as well and fully represented as possible. Beyond question, a large number of photographers will only too late feel regret that they did not make the small sacrifice of time and money necessary to place their work where it could be seen by the thousands that will visit the Exposition. Why not give the matter attention at once? The time is short, but one can secure blanks and all necessary information by writing Theodore Hardee, Chief of Department of Liberal Arts, Exposition Building, San Francisco. Below are given in full the rules governing exhibits in this group, and particular attention is called to that portion covering pictorial work.

RULES GOVERNING PHOTOGRAPHY EXHIBITS, GROUP No. 33.

The plan suggested for erection of one large booth in the Palace of Liberal Arts, to house all exhibits classed under Photography, has been abandoned because of the lack of sufficient pledges to pay for the cost of constructing the proposed booth.

Under the Official Classification of Exhibits at the Panama-Pacific International Exposition the equipment, processes and products of Photography form Group No. 33 in the Department of Liberal Arts, as follows:

Class 122. Materials, instruments and apparatus of photography, equipment of photographic studios, stereopticons, mutographs, kinetoscopes, moving pictures, etc.

Class 123. Negative and positive photography on glass, paper, wood, cloth, films, enamel, etc. Photogravure in intaglio and in relief; photocollography, photolithography. Stereoscopic prints. Enlarged and micrographic photographs. Color photography. Direct, indirect and photo-color printing. Scientific and other applications of photography.

Class 124. Pictorial photography.

PORTRAIT AND COMMERCIAL PHOTOGRAPHS, PROCESSES AND EQUIPMENT (INCLUDING MOTION PICTURES)

Portrait and Commercial photographers, and equipment manufacturers, will be required to erect individual booths at their own expense, and likewise defray the cost of transporting, installing and maintaining their respective exhibits.

Booths in the Palace of Liberal Arts should consist of ornamental facades on aisle exposures, with rear and side walls, and a platform rising four and three-fourths above ROUGH floor of the space occupied. A roof or top covering would be desirable, although not absolutely necessary. The cornice line of high show cases, booths, and tops of large signs must be precisely fifteen feet above the ROUGH floor level. Particulars regarding construction levels of booths, etc., and other data governing the installation and maintenance of exhibits are contained in the Rules and Regulations of the Division of Exhibits.

Information concerning allotments of space, transportation of exhibits, water, electricity for light and power, gas, building details, etc., will be found in Circular No. 3 issued by the Department of Liberal Arts.

Exhibitors may save considerable time, trouble and expense by consulting expert booth designers and builders now in San Francisco who have had wide experience at previous expositions. These experts will prepare, without charge, sketches as suggestions that conform to the Exposition's requirements. Upon request, the Department of Liberal Arts will be glad to furnish the names and addresses of reliable concerns in this line of work.

PICTORIAL PHOTOGRAPHS

The Department of Liberal Arts plans to provide a special gallery for displays of carefully selected Pictorial photographs under Class. 124. The only expense to exhibitors in this class would be the transportation of their pictures (which must be submitted unframed), and the cost of the frames which would be selected by the special Committee that recommends what pictures shall be admitted as exhibits. The question of suitable frames must be decided by this Committee to preserve harmony of installation in this gallery.

Should arrangements be consummated for the desired Pictorial Photograph Gallery, applicants for space will be promptly notified and given all further particulars in ample time to enable them to prepare and forward their photographs.

The Soft-Focus Lens

In his excellent article on the soft-focus lens in our July issue, Mr. Edwards mentioned the Turner-Reich as being in the same class as certain other lenses of the soft-focus kind. This was an error, as the excellent Turner-Reich lens is an anastigmat having all the good qualities of the best lenses of that type. Mr. Edwards evidently had in mind the Achromatic Meniscus manufactured by the same firm, one that is possibly the original lens of the soft-focus kind on the market. This last is an excellent soft-focus portrait lens working at f-6, and the manufacturers, the Gundlach-Manhattan Optical Company, of Rochester, New York, will be only too glad to send our readers full particulars concerning it, should they be interested in a lens of that type.

Guiding Forces

"My dear friends," said Mesdag one day to several young painters who had visited him at his Hague studio, "it is today as easy to be original as it ever was; for that lies in the man, and not in the time in which he happens to live. Go to work for yourself, and if you succeed in reproducing on canvas the effect nature produces upon you the result must be original, for nature never looks at two persons with precisely the same face."—"International Studio."

Nature is made better by no mean,
But nature makes that mean; so, o'er that art
Which, you say, adds to nature, is an art
That nature makes.—SHAKESPEARE—"Winter's Tale."

By mind, the artist reaches us through static and objective indications of design in his work legible to all. By soul, he reaches us, somewhat capriciously, perhaps, one and not another, through vagrant sympathy and a kind of immediate contact.—WALTER PATER.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Notes on a Permanganate Bleacher

In more than one recent communication to the *British Journal of Photography* there have appeared complaints that bromide paper prints do not last much more than a dozen years without showing signs of oxidation. As the editor has pointed out, it is not oxidation which is seen, but what the complainants have noticed is a partial sulphuration of the image.

There are two causes of this sulphuration, both easily avoidable: First, hypo left in the print on account of insufficient or inefficient washing; second, retained silver, due to inefficient fixation. Many people apparently believe that it is possible to wash prints by laying several of them in an ordinary photographic dish and turning water onto them through a "rose." This is a ridiculous method to employ. In time it would no doubt give a satisfactory result, but how long would it take? Certainly much longer than the hour or two usually allowed. The use of some proper form of print-washer is absolutely necessary, if an automatic action is relied on, and one wants to get the thing done in a reasonable time. For my own part, I always use a Marion separate layers washer, as I have found this apparatus thoroughly satisfactory and efficient.

Well, so much for the occurrence and cause of involuntary sulphuration of bromide prints; now for a method of restoration. The problem to be solved in restoration is the discovery of a good and suitable bleacher for a silver sulphide image. It is necessary to convert the sulphide image into silver chloride, for this is the halide of silver which on the application of a developer yields the best toned result.

I find that when we want to convert a wholly or partially sulphuretted image into one of pure silver having a good black tone, it is best to carry out the operation as follows: The print is first soaked for two minutes or so in water and then immersed for ten minutes in a saturated, or nearly saturated, solution of alum. After this it is rinsed under the tap for a few seconds and then put into a permanganate-chloride bleaching bath. For this bleaching bath it is best to keep two stock solutions:

A:	Potassium permanganate	10 grains
	Water	5 ounces
B:	Sodium chloride	¼ ounce
	Alum	¼ ounce
	Concentrated sulphuric acid	25 minims
	Water	5 ounces

The actual bleaching bath is compounded by taking one part of solution A and adding it to four parts of solution B. This bleacher works very quickly, and it does not give off noxious chlorine vapor, but is quite pleasant to use. After bleaching there is almost always left a slight yellow stain, oxide of manganese, on the paper, especially where bleaching has taken place, i. e., on the parts previously occupied by the image. It is best to remove this stain before re-development, and in order to do this, the print, after rinsing, is placed in:

Alum	¼ ounce
Sodium sulphite, crystals	6 grains
Concentrated sulphuric acid	5 minims
Water	5 ounces

and when the stain has disappeared, the print is washed in running water for about ten minutes, and then redeveloped in:

Amidol	6 grains
Sodium carbonate, crystals	6 grains
Sodium sulphite, crystals	35 grains
Water	2 ounces

Finally, a thorough wash brings the process to an end.

This process, just as I have described it, with one slight alteration, is also the best method I know for removing resinous developer stains from a negative. There are two kinds of brown, yellow and green stains which may be produced in the films of negatives and prints. One of these is a very fine-grained deposit of metallic silver, which usually has a bluish metallic sheen by reflected light, and which transmits light of a yellowish-brown color. This is known as dichroic fog. The other kind, which is either brown, yellow or green, is a stain due to the oxidation products of the developing phenols.

The permanganate bleaching bath will readily remove the oxidation product stains, whether these stains be in the form of general stains or stain-image. For this purpose, however, the quantity of solution A in the bleaching bath should be doubled. With this exception, the operation should be carried out just as I have described. When I first suggested the permanganate method of bleaching out resinous organic stains, I felt obliged to issue a caution against leaving the plate more than a short time in the acid permanganate solution. The alum treatment, however, gets over any difficulty from the softening of the film, and if the process is carried out exactly as I have described it above, a very long immersion in the bleacher becomes perfectly safe.

Almost invariably also will this treatment cause dichroic fog to disappear from a negative, but this fog is not genuinely removed in this way. What happens is that the fog is bleached to silver chloride, and then on the application of the redeveloper it is converted into grey metallic silver, which is so much less photographically conspicuous as to become practically invisible and innocuous. However, the best and most scientific way of dealing with dichroic fog is to remove its constituent silver entirely from the negative or print.

There are several ways of doing this, but I prefer the following. Take a small quantity of the well-known bichromate-chloride bleacher:

Potassium bichromate	35 grains
Sodium chloride	½ ounce
Concentrated sulphuric acid..	200 minims
Water	5 ounces

and dilute it with from five to ten times its volume of water. The plate, after being well soaked in water, is immersed in this solution till the stain is bleached to silver chloride. The very finely grained silver forming the dichroic fog is readily acted upon by the dilute bleaching solution and entirely converted into silver chloride before any appreciable action takes place on the metal of the image.

The plate is then washed, fixed, and washed again. As far as I know, dichroic fog is produced in only two ways. These are the use of a rather weak developer containing too much sodium sulphite and the immersion ot prints or negatives straight from the developer into the fixing bath without any previous rinsing. The commonest examples of the first case are the yellow stains so easily produced by the use of an unsuitable developer with "gaslight" papers. The second case is most readily shown when one of a most excellent and popular brand of plates is developed with a developer containing a considerable portion of hydroquinone and then fixed straight away in a plain solution of hypo. The mechanism of the thing consists of the solution of some silver halide in sodium sulphite or hypo, and then by the action of the developer the soluble silver compound so formed is reduced to metallic silver, which is deposited out of the solution in a very fine-grained form. On its peculiar molecular state depend its color and properties.

Stains which are essentially dichroic fog may be produced when intensifying with silver and when damp printing-out paper is brought into contact with a negative. These should be treated in the way I have described. Solvents of silver halides other than sodium sulphite will, if added to the developer, be liable to cause dichroic fog, as users of ammonia containing developers will remember. —R. E. Blake Smith in *British Journal of Photography.*

Oil or Bromoil

In view of the fact that some of our local workers are seriously interesting themselves in bromoil, the following paper by Dr. E. Stevens, in the *Amateur Photographer,* may be useful:

There can be but little doubt that the oil-pigment processes and their derivatives are extremely popular, and are likely to prevail, in spite of the strictures and criticisms of the purists.

The oil process itself, however, seems to be sinking into insignificance when compared with bromoil, if one may judge by the numerous articles and correspondence on the latter process in the photographic papers.

The French school, pre-eminent in the oil processes, neglects bromoil, and the pictures of such noted workers as M. Demachy, Major Puyo, Mlle. Massion, and others are invariably presented in oil pure and simple, or its derivative, oil transfer. Writing in "Photograms of the Year" of 1912, M. Demachy says: "The printing processes, as represented at the French Photo Club Salon, show a notable increase in the use of the oil process, no bromoils, except on the English panel."

I have worked oil, and I have seldom had a failure in the working, whereas with bromoil there has been much tribulation. Every month seems to bring forth a new formula which is to cure the sum total of bromoil troubles.

It is useful and instructive to compare the two processes side by side and in tabular form.

Bromoil.	Oil.
1: Original negative must be of a suitable character.	1: Original negative any type.
2: Make a bromide enlargement in a very careful manner.	2: Make a transparency.
3: Dry.	3: Make an enlarged negative from the transparency—much latitude as to its character.
4: Bleach.	4: Spirit sensitize the oil-printing paper and dry.
5: Wash for five minutes.	5: Print from the negative.
6: Fix in hypo.	6: Wash for half an hour or more. After this pigmenting can be commenced or deferred until another occasion.
7: Wash for half an hour.	
8: Dry.	
9: Soak before pigmenting.	
Steps 3 to 7 must be carried out at a constant temperature.	
The image will be pale greenish brown, unless special acid baths are used, thus introducing another operation and a potential source of error.	The image is quite free from color.

The only source of error with oil is the question of printing, but the smallest experience makes this easy—a safe rule is to print until there is a slight indication of detail in the high lights. It should always be remembered that the paper, when dry, is most sensitive to white light, and therefore in the printing should be examined well away from the window. In the dullest of winter weather I have printed from average negatives in twenty-five minutes, whilst in best summer light, four minutes, as a rule, is ample.

This celerity of printing can be used as an argument against the artificial light claims of the bromoilists, for it is quite easy to make one or more prints whilst one is dressing in the morning. Of course, it will be urged by some that with oil an enlarged negative is necessary. Certainly it is, but an enlarged negative to any one who takes the trouble to learn the procedure is no more trouble than the preparation of a bromide print, and possesses potentialities for the use of papier-minéral and Billdup varnish.

The one great advantage which stands supreme is the fact that oil means the utmost facilities and quickness of pigmenting, and if one aspires to the further stage of oil transfer, with its charming quality, endless variety of surface, and the subtle call of pure paint on pure paper, these are advantages not easy to over-estimate.

To those workers who have essayed bromoil and have abandoned the process in despair or disgust, I commend the oil process, and if they try experiments with a small negative and follow the directions very clearly set forth in such a book as "The Oil and Bromoil Processes," they will be surprised at the ease and delight of this charming printing medium.

Stereoscopic Cinematography

During a recent visit to the Royal Patent Office we were surprised to find that such a large number of specifications for stereoscopic cinematographs had been filed during the past twelve months. Although so many patents have been granted there has been comparatively little progress made in this branch of cinematography. We might almost say, however, that motion photography has now reached its apotheosis as the result of a discovery which is being exploited by the Stereoscopic Syndicate, Limited, of Chancery Lane. By the kine-stereo. projection the figures and subjects thrown on the screen stand out as distinctly from the background and surroundings as do those in the purchase seen by the use of the ordinary lenticular stereoscopic apparatus invented by Brewster.

In the kine-stereo. process the appearance of relief is obtained by the ingenious use of an inclined mirror, coupled with slight distortion, due to refraction, in the picture thrown along with the direct projection on the screen. By the formation in this way of a duplicate image a surprising amount of depth and perspective is secured in the picture; the spectator is enabled to appreciate to the fullest extent possible the distance, for instance, from figures in the foreground to the landscape scenery behind, and the natural aspect of the scene takes the place of the mere photographic reproduction hitherto attained. Moreover, all tendency to flicker is avoided, while the brilliancy of the picture is enhanced rather than diminished. Scratches and injuries to the film tend to disappear, and even worn-out and "rainy" films give sufficiently clear pictures. Our readers will shortly have an opportunity of seeing films projected by this process at many of the cinematograph theaters in this country. That the invention will greatly increase the potentialities of the motion picture there can be little doubt.—*The Amateur Photographer.*

Stereoscopic Photography

Gentlemen: I was much interested in the recent article by "Practicus" on stereoscopic photography, especially as it is not long since I made my first attempt at this kind of work. In doing so, I discovered a method of using a roll-film camera for this purpose in such a way that the resulting pictures are in the correct relative position without cutting or transposing. It applies, however, only to cameras taking pictures not longer than about three inches.

The method is this: The camera must be held with the length of the film horizontal, and of the two viewpoints the one opposite to the film winding-handle must be used first. If the views are being taken from a moving boat or train, the order of viewpoints is fixed, and the camera must be held with the winding-handle on the side towards which the conveyance is moving. No doubt this method is in constant use, but I have not seen any mention of it. I am,

Yours very truly,

LESLIE J. BERLIN.

[The method proposed by our correspondent is quite a good one, and we believe its advantages have not been generally realized. —EDS., *British Journal of Photography.*]

Combined Development and Fixing

C. Otsuki and T. Sudzuki have tested the combined developing and fixing solution proposed by Cremier in *Photo. Revue,* containing one gramme of amidol and two and one-half grammes of thiosulphate in one hundred cubic centimeters of water, and find that it does not give images of sufficient density, and requires from thirty-seven to forty minutes to act completely. The authors tried to prepare an amidol solution which would work more rapidly, by increasing the amounts of amidol and thiosulphate, but the images were still too thin. Similarly with metoquinone and sodium sulphite and carbonate, it was impossible to obtain sufficient density. However, it was found that the use of caustic soda instead of carbonate resulted in a rapidly acting solution which gave satisfactory images. The best formula is: Metoquinone, one-half gramme; anhydrous sodium sulphite, three grammes; caustic soda, one-half gramme; sodium thiosulphate, six grammes; water, one hundred cubic centimeters. In this solution, the image is completely developed in sixty to ninety seconds at a temperature of eighteen to twenty-two degrees Centigrade. It is best to make the metoquinone and sulphite into one solution and the caustic soda and thiosulphate into another, and to mix the two at the time of using.—*Journal Society Chem. Indus.*

The Photography of Movement

It often happens that the psychologist can teach the photographer a thing or two, and it is in a journal of psychology published in New York that we find a reasoned exposition of the photography of motion. It sounds like a paradox, that in order to represent pictorially an object in motion one should represent it at a point of rest, but it has a very sound basis in psychology, or perhaps physiology, for all that. When the eye looks upon a thing in motion, the motion being too rapid for it to grasp, it seizes upon certain resting stages and reconstructs the motion from them. The legs of a horse, therefore, must be caught, either before the movement begins, or at the final point where the movement ceases, never midway between extension and return. The same is true of the arm in striking a blow; either the arm must be shown drawn back ready to strike, or fully extended, the blow having already been delivered. There is an apparent exception, that of the athlete hurdling the fence, for he must perforce be shown in the middle of his leap. But the middle of his leap is really a momentary resting-point between ascent and descent.—*Photography.*

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Handling a Doubtful Exposure

There comes to most of us a time when our plate-holder contains an exposure concerning which we have considerable doubt as to whether it has been somewhat under-exposed or perhaps much over-exposed, and yet we are more than anxious that the best possible negative may result. I do not wish in the least to belittle the merits of tank development; and, with a number of doubtful exposures having only the importance of the average "snap," or even in the case of more serious work that could be duplicated with no great difficulty, the tank would be first choice. But where time and trouble count but little against the importance of getting all that can be secured in the way of a negative, let us set aside the tank and use a method having a wider range of possibilities. This is best achieved, on the authority of many old and successful workers, by the use of solutions containing the developing agent proper, and the alkali that stimulates it into action, alternately. Bearing in mind the fact that the first is practically incapable of developing an image alone and that the second controls, by its proportionate amount, the degree of action created, one can quite easily understand the theory of first soaking the plate in the solution containing only the developer and its attending preservative and then adding the alkali in a greater or lesser degree by soaking this developer-filled emulsion for a longer or shorter time in that solution. If the plate is one that has received a too short exposure, soaking first in the, let us say, pyro solution, insures only that enough of the pyro is taken up to develop the image, if developable, with no danger of too much density in any part, density such as causes the too common result of soot-and-whitewash from under-exposure. With this preliminary soaking in the pyro, one then has only to give a soaking in alkali to assure a sufficient amount of that useful chemical mingling with the developer in the film, and then give the plate a protracted soaking in water to enable this mixed developer to do all that it will. Should the plate be an over-exposed one, the result of immersing it in the second or alkali solution will be a quick flashing up of the image. This is the signal for returning it to the first or pyro solution, where it will develop up rightly. This last for the reason that the film, already well charged with pyro solution, could take up but little of the alkali solution in the short time allowed and the development proceeds exactly as would have been the case had the plate been known to be over-exposed and a developer containing but little alkali employed. In actual practice, one will find that practically all exposures will require several changes back and forth from the two solutions, but one can understand that about the limit of control is achieved by this plan and without the danger attending the application of a normal developer to a plate that may be either under or over-exposed. Not only does this method give great control, but it indicates in good time the measure of control that must be used, this last a feature that other proposed methods of control do not always offer.

The Fuzzy, Out-of-Focus Effect

As we understand the matter, a picture can be a piece of imaginative art, a work intended only to excite the imagination; a work not intended to declare the imaginative truth that the artist holds, but rather, create a picture in the mind of the beholder by its power of arousing the imagination. While photography, with its somewhat mechanical basis, does not seem to lend itself very readily to the production of this imaginative art, many of its devotees have gone no short distance in their effort to secure this effect of imaginative truth. But we must use some care to avoid being led astray, led aside from the real aim, through the difficulty of our medium, from deceiving ourselves into believing that vagueness is imagination and indistinctness confers the power to excite the imagination in the desired way. Imaginative art may be quite vague and indistinct, but this fact does not justify the assumption that obscurity of line and omission of detail will, in themselves, endow a work with the quality of imagination. The work of the poet has rhythm and so, to a certain extent, has doggerel. The first is art, often imaginative art, while the latter appeals only to those quite simple in mind and devoid of other than the most crude imagination. We should be careful that we do not place ourselves in this latter category by our acceptance of much that is offered as art photography, as really art. There is no deep mystery in the motif of imaginative art, and it is safer to reject that which we cannot understand than to risk making ourselves ludicrous in the eyes of those who can really understand by accepting too confidently the eulogies of those who would have us believe that their own power of understanding is such that their approval should suffice.

Spotting Prints to be Squeegeed

An Iowa correspondent has been having trouble with the spotting coming off when the prints are squeegeed; and, if the work is done after removal from the ferrotype plates, it lacks the gloss of the surrounding surface and shows quite plainly. The proper procedure, according to a local commercial man, is to use oil colors with a medium composed of one-fourth ounce of good gum dammar in five ounces of pure turpentine, doing the spotting before the prints are squeegeed.

Staining Prints with Coffee

I saw some prints the other day that are worth telling about. They were made on ordinary black and white developing paper, but they had been soaked in some cold coffee, made fairly strong, until practically all of that cold, glaring effect of the white paper had been lost. The process consisted, so the maker told me, in simply making a strong decoction of ordinary coffee, straining it through cloth to remove all grounds, and then, when cold, immersing the prints therein. When taken out, they must be blotted off to prevent unevenness, and then dried. If the tone is not as deep as one would like, it can be made stronger by a second or third immersion. Some of the prints were double mounted on another sheet of white paper that had had the same treatment, only more of it, in order that the tone be a few shades darker; as many as three or four soakings and dryings having been given this last in some cases. The worker advised that he had tried a number of things,—tea, dilute ink, aniline dyes, potassium permanganate and the like, but much preferred the strong coffee as a stain for the paper support of his prints.

Stains on Bromide Prints

Of course, not all stains are removable; but, according to a very good local worker, the following formula will prove effective in a great many cases. It is certainly worth a trial.

Iodine	60 grains
Potassium cyanide	60 grains
Potassium iodide	120 grains
Water	10 drachms

This is the concentrated stock solution and keeps indefinitely. For use, moisten a wad of cotton with a little water to which has been added a few drops of the above, say five drops to the ounce of water, and rub the surface of the print. A clean working developer, rinsing the prints before fixing and keeping them moving the first few moments in the fixing bath, will make stains a very rare occurrence, but they sometimes come to the most careful workers, and then the above can be given a trial.

Rusty or Greenish Prints

Sometimes the finished bromide or gaslight print will have an unsatisfactory tone, coming out rusty or greenish instead of a good black. Such prints should be put aside and when a few have been accumulated, they should be subjected to a gold toning bath made as follows:

Ammonium sulphocyanide.....	30 grains
Gold chloride	2 grains
Boiling water	4 ounces

Dissolve the sulphocyanide in one-half of the water and the gold in the other and then add the latter solution to the first very slowly, stirring constantly. As soon as cool, it is ready for use and the well-washed prints should be squeegeed face up on a sheet of glass and then gone over with the toner, applying it with a broad, flat camel's-hair brush until the desired color is secured. A thorough washing completes the process. This toning slightly clears up and perhaps reduces the print a trifle, hence slightly over-printed and muddy prints are benefited in other than the matter of tone.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

James B. Warner, Director Stereoscopic Division, 413-415 Call Building, San Francisco.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality a letter "X" will be placed after the member's number indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

George E. Moulthrope, Director Lantern Slide Division, Bristol, Conn.

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STATE SECRETARIES.

Answers to inquiries concerning membership and membership blanks will be supplied by the State secretaries. Album directors are at present acting as State secretaries in such of their respective States as have as yet no secretaries.

California—W. E. Thomson, 3211 School St., Fruitvale, Oakland.
Idaho—Eugene Clifford, Weippe.
Kansas—H. H. Gill, Hays City.
Missouri—J. F. Peters, Room 210, Union Station, St. Louis.
New York—Louis R. Murray, Ogdensburg.
Oregon—F. L. Derby, La Fayette.
Texas—Emmett L. Lovett, Roby.
Wisconsin—F. W. Freitag, 500 Monument Square, Racine.
Mississippi—George W. Askew, Jr., 211 34th Ave., Meridian.

FOREIGN SECRETARIES.

French—Charles A. Wargny, 247 Torrence St., Punxsutawney, Pa., U. S. A.
German — George N. Baumiller, Nutwood, Ohio.

NEW MEMBERS

3933—A. E. Helm, Box 364, Metropolis, Ill.
3¼x5½, developing papers, of general subjects and scenes along the Ohio River; for scenes from Western States and general landscapes. Post cards. Class 1.

3934—Miss B. Reineke, 4111 No. Kostner Ave., Chicago, Ill.
Class 2.

3935—Leon Cote, La Tuque, Quebec, Canada.
5x7 and smaller, various papers, of portraits, view postals, and enlargements; for anything of general interest. Class 1.

3936 Grant Wright, Tunnelton, Ind.
5x7 and post cards, developing papers, of views of Petrified Forest, and others of Arizona, flashlights, also Indiana views; for views of different parts of United States, views of Yosemite Valley, Yellowstone National Park, and anything of interest. Post cards only. Class 1.

3937—W. E. Altizer, Box 44, Antioch, Cal.
3¼x5½, developing paper, of general, landscapes, marines, etc.; for any that are not of a personal nature, also figure studies and nudes. Class 1.

3938—Aaron Coates, 322 Conway St., Frankfort, Ky.
3¼x5½, 2½x4¼, and enlargements, various papers, of children, landscapes and historical buildings and places; for anything of general interest. Class 1.

3939—Carleton S. Fidler, 580 O'Farrell St., San Francisco, Cal.
3¼x5½, 5x7 and 7x11, developing papers, of miscellaneous views; for the same. Class 1.

3940—A. N. Ward, Shelton, Wash.
3¼x5½, post cards, various papers, of descriptive views of Western Washington; for general subjects. Class 1.

3941—Mrs. H. T. Bagley, Hillsboro, Ore.
3¼x5½, various papers, of Columbia River scenes, bathing pictures, snow-capped mountains, landscapes, baby photos, and many miscellaneous subjects; for child portraits, animal studies and night pictures. Class 1.

3942—A. Warrington, 124 Little Dock St., Philadelphia, Pa.
3¼x5½, developing papers, of landscapes, marines and city views; for anything of interest. Class 1.

3943 E. G. Stephens, 950 State Ave., Kansas City, Kan.
Class 2.

3944—S. V. Kirloskar, Post Kirloskarvadi (Dist. Satara), India.
Stereoscopic and 3¼x4¼, printing-out papers, of views, waterfalls, native types, street scenes, etc.; for stereoscopic views and artistic portraits or landscapes. Class 1.

3945 Heath Wixson, Carney, Okla.
3¼x5½ and 4x5, developing papers, of Oklahoma State fair, views of some small towns and country scenes; for public buildings, scenery and general subjects. Post cards only. Class 1.

3946—Edward W. Spraggs, Fairbanks, Minn.
Class 3.

3947—J. E. Firguson, 3340 Archwood Ave., Cleveland, Ohio.
4x5, various papers, of landscapes; for the same. Class 1.

RENEWALS

2858—H. M. Sutton, care Sutton, Steele & Steele, P. O. Box 1223, Dallas, Texas.
Stereoscopic views and 3¼x5½, of different parts of United States and Mexico before the Madero rebellion; for first-class landscapes. Only first-class work sent or accepted. Class 1.

2979—W. H. Waggoner, Eureka, Ill.
Class 3.

3011—Levi French, Oakdale, Cal.
3¼x5½, developing post cards, of rural scenes, landscapes, mining, river views and scenes of California and North Dakota; for similar subjects or any views of interest. Class 1.

3315—Edna E. Williams, Fair Haven, N. Y.
3¼x5½ and 4x5, various papers, of landscapes, flowers, animals and children; for similar subjects. Prints and post cards. Class 1.

3394X—George B. Ley, Lock Box 2, care Bert B. Ley, South Akron, Ohio.
Post cards only. Will answer all who ask for exchange, whether amateur or professional. It makes no difference as to kind of card sent except nude, which will be returned to those that send them. Class 1.

3414—F. D. Campbell, M. D., Coal Grove, Ohio.
Class 2.

CHANGES OF ADDRESS

1864—A. G. Lindgren, Echo, Minn.
(Was Hasty, Minn.)

3744—H. D. Hineline, 210 N. Murray St., Madison, Wis.
(Was Beloit, Wis.)

3753—N. Straley, Walla Walla, Wash.
(Was Paradise, Ore.)

3759—Asa Schenck, 1010 N. Oklahoma Ave., Oklahoma City, Okla.
(Was Piedmont, Okla.)

3781—A. N. Ramsay, 908 Lafayette St., Alameda, Cal.
(Was Wengler, Cal.)

OUR BOOK SHELVES

"The Great Small Cat, and Others"

This is the title of a dainty, handsome book containing seven tales in which the author most charmingly gives expression to the almost universal appeal that the cat or kitten makes to both old and young. That cats have individuality, individual characteristics, is known to all, and the author, May E. Southwork, has taken full advantage of this fact in weaving into these character studies in her own most entertaining style, many bits of humor, much of comedy and even touches of the pathetic, giving us a volume that is a most gratifying change from the usual rather insipid treatment of like subjects. The book is made all the more interesting to our readers, the photographically inclined, by reason of the seven illustrations being all reproductions of excellent photographic portraits of the subjects themselves, done in sepia and tipped in. Furthermore, like all from these particular publishers, the volume is a fine example of the bookbinders' art, the kind that is in good taste and in keeping throughout. Published by Paul Elder & Company, 239 Grant Avenue, San Francisco. Price, one dollar and twenty-five cents.

"Practical Cinematography and Its Applications

This is the title of a new book by Frederick A. Talbot, the author of "Moving Pictures: How They Are Made and Worked," etc., but in this last volume Mr. Talbot has kept fully in mind the express purpose of encouraging and helping the amateur photographer who is desirous of taking up cinematography or moving-picture work. The apparatus used, the methods employed, and the conditions overcome, are all explained in the most full and comprehensive manner. The scope of the book can be judged by the fact that nearly four pages are required for an index of the illustrations that embellish the twenty distinct chapters. The book is one that should have a large sale, strictly on its merits as a source of information on a subject none too well exploited in an informative manner. Published by J. B. Lippincott Company, Washington Square, Philadelphia, Pennsylvania. Price, one dollar, net. Postage, nine cents.

"Burnet's Famous Art Essays"

John Burnet's Art Essays have long been recognized as works of the highest value to the art student and the artist. As has been said by so high an authority as the "Westminster Review," "To the orthodox in art matters, 'Burnet' is a 'household word,' and is regarded as an authority sound as Sir Joshua himself." These essays, The Education of the Eye, Practical Hints on Composition, and Light and Shade, have recently been reprinted, together with one hundred and thirty-five photo-engravings and etchings, from celebrated pictures, in one handsome volume, bound in art canvas. This places this valuable work again obtainable in this country, and our readers who are not in possession of one of the older editions should be sure to secure a copy of this. Copies can be ordered from photographic dealers or direct from the publisher, Frank V. Chambers, 210-212 North Thirteenth Street, Philadelphia, Pennsylvania. Price, two dollars and fifty cents, postpaid.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

Mr. Porcorny, formerly of the Hartsook Studios, is now with James & Bushnell, Portland, Oregon.

All the leading studios of Sacramento had very fine exhibits at the State Fair.

Miss Della Bryan, who was Queen of the Fourth of July celebration at Smith's Flat, California, this year, is now located in Marysville as receptionist with the Green Studio.

M. Seron has sold his Marysville studio and expects to locate in Oakland.

F. H. Hanson, of Stockton, has added many new backgrounds to his studio equipment.

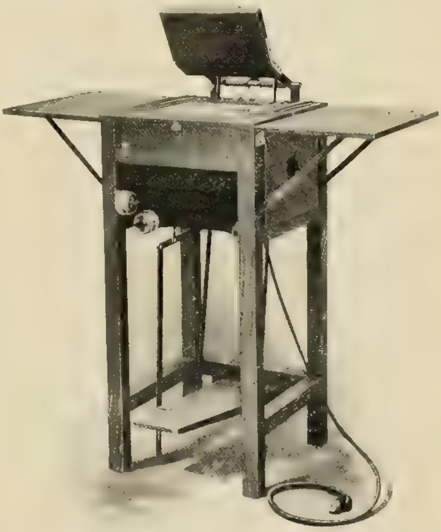
W. S. Valentine, of Redding, has many fine pictures of Mt. Lassen while in eruption.

Mr. Parker, of Salem, recently spent his vacation in the wilds of Oregon forests. It is said he trapped some fine game. (Joe Knowles II.)

F. & S. Professional Printer

We are often asked as to a good printing machine and therefore take pleasure in describing one that can be recommended most highly. The F. & S. Professional Printer is a simple and thoroughly efficient printing machine for the use of the professional photographer, or those doing finishing for the amateur. The fact that the printer is operated by a foot treadle leaves both hands free for adjusting the paper and negative, a 12x17 folding leaf at each side of the machine affording ample space to carry the paper and negatives. The pad is so constructed that the paper and negative are brought into absolute contact, with either single or double weight paper; as soon as full pressure is exerted on the pad by pressing down on the foot treadle, the lights are automatically turned on. To insure perfect contact through the entire exposure period, the current is not turned off before the pressure is released on the pad.

The light box is arranged to carry nine forty-watt Tungsten lamps in three rows, in addition to one ruby light to enable the operator to adjust paper and negatives. All of the lights may be illuminated, or any row of three lamps controlled separately, according to the density or quality of the negative, an independent switch controlling each row of lights. As the lamps, with the exception of the ruby light, remain burning only during time of exposure, the F. & S. Printer is exceptionally economical to operate.



An attachment is provided whereby the lights may be turned on without lowering the pressure pad, making it convenient to readily adjust vignettes or mats for white margins.

A sheet of crystal plate glass is flush with the top of the stand forming the printing surface, which is large enough to accommodate an 8x10 negative in the No. 1 Printer and an 11x14 negative in the No. 2 Printer. A slide at the side of the table top permits the removal of the glass for adjusting or renewing the lamps. Immediately under the printing surface, grooves are provided into which may be placed sheets of ground or flashed opal glass. One sheet of flashed opal glass will usually diffuse the light sufficiently for even illumination. Spring fingers are attached to the top of the printing table for the purpose of holding masks.

The machine is substantially constructed of hardwood in weathered-oak finish, and is so simple in design there is nothing to get out of order. Economy of operation, simplicity in construction, combined with the ability to dodge while printing by varying the illumination, make the F. & S. Professional Printer the most efficient printing device on the market. No. 1, with 8x10 printing surface, is thirty-seven inches in height and occupies a floor space, with leaves folded, of 18x20 inches. No. 2, with 11x14 printing surface, is forty inches high and occupies a floor space, with leaves folded, of 23x26 inches. The price of these F. & S. Professional Printers, including six feet of conductor cord and one sheet flashed opal glass, but without lights, is twenty-five dollars for the No. 1 and thirty-five dollars for the No. 2 size.

The Popular Pixie

The Gundlach Manhattan Optical Company, of Rochester, New York, advise that their new line of Pixie Roll Film Cameras, although on the market for only a short time, have received a far better reception than their makers dared anticipate, the steady increase of sales being most encouraging. Several new models will be added to the line as soon as they have been perfected. Pixies are handsome little cameras and are very simple in operation, and they are also most efficient in service. Their makers manufacture their own lenses and also produce the famous Turner-Reich Convertible Anastigmats. They are anxious to send their catalogues free of charge to all who ask for it. Better drop them a postal card today.

Parcel Post for Photographs

October thirty next is the date which has been selected by the P. A. of A. on which to send letters to the Third Assistant Postmaster General, Washington, D. C., asking him for consideration in regard to having photographs entered in the Parcel Post classification. Every photographer in the United States is urgently requested to send a letter on that date, making a strong appeal for the consideration which we believe is deserved.

Many other organizations have secured the Parcel Post rate simply because they have brought pressure to bear on the postal authorities. The time has come for photographers to work as a unit in an effort to secure the same benefits.

So far no attention has been paid to the appeals of the committees sent by the Photographers' Association of America, and we must now show that this request is more than an individual matter. This last can only be accomplished by personal letters from the thousands of photographers throughout the country. Mark October thirty on your calendar, and do not fail to write to the above address on that date, making the appeal as strong as you can in a typewritten letter.

On that date the secretary of the Photographers' Association will write the following letter:

WASHINGTON, D. C.,
October 1st, 1914.

THIRD ASST. POSTMASTER GENERAL,
Washington, D. C.

DEAR SIR:

The photographers of the United States feel that they are not receiving the consideration that they should in having photographs excluded from the Parcel Post classification. At the National Convention of Photographers, held in Atlanta, Ga., June 15th to 20th, the following resolution was passed:

"Resolved: That the P. A. of A. assembled in Atlanta, wish to go on record as expressing their feelings of indignation against the unfair discrimination by the postal authorities for not allowing photographs the benefits of Parcel Post.

"Be is further Resolved: That the legislative committee take proper steps to secure Parcel Post rate for photographs."

We can see no reason why photographs should be excluded from Parcel Post classification since books and other printed matter have been admitted. Therefore, we beg you to give this matter your serious consideration.

Fraternally,

Hydroquinone Advanced

Had anyone told us a short time ago that the price of hydroquinone would advance to eight dollars a pound, we would have said it was absurd, impossible, that such a thing could never happen; nevertheless, that is the lowest price quoted by the wholesale drug houses during the recent run on this popular developing agent. We learn that Mr. Willoughby, of 810 Broadway, New York, has actively interested himself in getting the domestic product on the market, and that there is hope of the price being, before long, considerably reduced, even to a somewhat normal range, although there is little immediate hope of the price being as low as maintained two months ago.

Hydroquinone seems to be indispensable to the motion picture people, and it was their heavy purchases that advanced the price. Owing to judicious buying, Mr. Willoughby was able to fill every order received from his own customers, as well as those from about a hundred new names that were added to his already extensive list. He has established a chemical inquiry bureau, and we would suggest that our readers wanting information in regard to photographic chemicals might, to advantage, write him.

Tessars for Motion Picture Work

Those interested in motion picture work should write Bausch & Lomb Optical Co., 624 St. Paul, Rochester, N. Y., for a copy of their new circular on the Bausch & Lomb-Zeiss Tessar for motion picture work. The circular describes the regular barrel mountings with iris diaphragm adjustment; the spiral focusing mount with distance and diaphragm adjustments and scales; and a newer form where the lenses are mounted in tube with diaphragm adjustments so that two or more lenses of different focal lengths may be readily interchanged in the same jacket. The motion picture photographer sometimes wishes to make larger size images and information covering this point is also given. Those who are interested in motion picture taking cameras or in projection lenses for motion picture work should write for a copy of these circulars.

Illinois College of Photography

The class in motion picture photography spent a day at the county fair at Altamont last month and took a number of racing scenes, balloon ascensions and various other performances. The films will be run at the local moving picture houses.

Among the enrollments the past month was I. Furusho, of Kumamoto, Japan.

The students' Camera Club held its regular quarterly election recently, and C. R. Dyer, Vance Langley and Talmage Morrison were elected secretary, president and treasurer, respectively.

M. C. Eignus, of 1913, has returned to the college to finish his course in photography. We also received visits last month from T. V. Hannaford, of 1910, and Walter R. Lodders, of 1913.

Prof. D. J. Cook has just returned from the Kansas Photographers' Convention at Newton, where he gave a lecture on The Science of Negative Making.

C. R. Dyer has established his reputation as one of our most versatile and efficient pupils. He recently executed a very unique order, one for several dozen enlargements in color photography. The "color" effect was achieved by an excellent rendition of the various tints and hues of the subjects, a company of "colored" minstrels who performed in this city.

CAMERA WANTS

Advertisements of the above nature shown below will be inserted under this heading at the rate of fifty cents each insertion, for twenty-five words or less; each additional word, two cents extra, cash with order. Those of positions wanted inserted free. No business advertisements accepted.

RETOUCHING WANTED At home; prompt attention given orders received from city or country. Moderate prices; seven years' retouching for Arnold Genthe. Mrs. Anna Josselyn, phone Franklin 7799, 1400 Washington St., San Francisco, Cal.

10x12 GUNDLACH Rectigraph lens, newly fitted with Iris diaphragm; list $60.00; will sell for $25.00. N. C. H., care "Camera Craft," San Francisco, Cal.

FOR SALE Old established, well-equipped studio, doing a first-class business, having best location in university city and fine farming community surrounding. Must sell at once; am leaving State. Price, $1,100.00 cash; investigation solicited. H. A. Ludwig, Champaign, Ill.

POSITION WANTED By a young lady as general assistant; have had 2 years' experience and wish to learn more of photography. State salary you can pay in first letter. Open for position October 20th. Prefer Oregon, Washington or Idaho. P. O. Box 126, Weiser, Idaho.

FOR SALE Best studio in town of 5,000, including amateur goods. For sale reasonable and easy terms to right party. The Good Studio, 113½ W. Commerce St., Altus, Okla.

FOR SALE View camera, 6½x8½, complete, costing $50.00; good as new, for $30.00. Alois Phillips, Hague, N. D.

FOR SALE Modernly equipped studio on main street; located in one of the best towns in Willamette Valley, Ore., population 2,000; big territory to draw from; no competition; equipped for 8x10 portrait and 6½x8½ view; also 3A Graflex; electric light; city water; paved streets, and good north light. Bona fide reasons for selling. A snap; must sell. Investigation solicited. Address D. S., care "Camera Craft," San Francisco, Cal.

FOR SALE Complete Rochester 8x10, single draw view outfit, with 4 double holders, shutter and Darlot portrait lens. Best offer takes it. Will sell lens separate. C. F. Fisher, Tabor, Iowa.

WANTED GRAFLEX 5x7, with or without lens. State net cash price in first letter. C. E. Pring, Box 249, Cristobal, Canal Zone.

POSITIONS WANTED Man and wife would accept good positions. Gentleman is all-round photographer, expert in Cirkut work; lady for reception room and printing. Can take full charge of any studio; 10 years' experience. Have my own studio here at present, but wish to change to a larger city. Present location 3 years; ages 32 and 34 years. We can get you the business. Write H. B. Manring's Studio, Alexandria, Ind.

WANTED STEREOPTICON With oil lamp, also slide sets. J. F. Allen, Box 333, Washington C. H., Ohio.

RENT OR SALE Cheap, established, paying studio; prosperous community of 5,000; only one other studio; opportunity for good man able to handle first-class trade. Complete equipment, single-slant light, fine location, large display, everything modern; business averages $1,800.00. I have other interests. Address Photographer, Box 353, Healdsburg, Cal.

FOR SALE 3¼x5½ Hall Mirror camera, 3A Eastman kodak and 5x7 portrait camera. Address I. R., care "Camera Craft," San Francisco, Cal.

NEGATIVES WANTED 5x7 and larger; figure and drapery studies, children, landscapes, farm scenes, etc. Send prints and prices wanted for negatives. The Photo Advertising Co., Minneapolis, Minn.

GOOD PHOTO TENT Wanted. State condition, size, price, etc. P. O. Box 869, El Paso, Texas.

POSITION WANTED An A1 all-round man will be open for engagement after October 1st. Can work background in negatives, thorough workman, no boozer; a chance to deliver the goods is all I want; thorough business training and can assume charge of any studio. Pacific Coast preferred. Address DuB., care "Camera Craft," San Francisco, Cal.

POSITION WANTED By a young man; experienced commercial and view operator. Can furnish first-class references. Address L. I. Dewey, 20 Allis St., Adrian, Mich.

FOR SALE 5x7 Auto Graflex with Goerz Dagor No. 3 lens, 2 Goerz compensating ray filters, film pack adapter, magazine plate holder Model A, 5 double plate holders, leather carrying case. Outfit cost $206.50. Absolutely perfect condition. First reasonable offer takes outfit. H. B. Brockett, Sundance, Wyo.

POSITION WANTED By all-round photographer who can furnish good references from leading studios of the East. He wishes to locate in the Northwest. Address D. H., care "Camera Craft," San Francisco, Cal.

SALE OR RENT Fully equipped studio, best location, main street; good man can make good money this Christmas. Particulars, Salt Lake Photo Supply Co., Utah.

GRAFLEX WANTED I will buy a Press Graflex if in right condition and price is satisfactory. Give full description and price subject to examination at express office. W. F. M., Lock Box 2, Midland, Mich.

FOR SALE Circuit Panorama camera No. 8, almost new, with 4 ft. printing frame, $125.00. Camera stand like Century, nearly new, $10.00. M. Camp, Winifred, Mont.

LEASE OR BUY Studio in a good town of 2,000 or more. Give full information; references exchanged; West preferred. B. L., care "Camera Craft," San Francisco, Cal.

SALE OR RENT Old established studio in county seat town of 4,000. Will sell lot and building or sell outfit and lease building. For particulars, write Lock Box 344, Manchester, Iowa.

SALE OR RENT Photo studio in county seat town in North Dakota; the only one there. Address George Kaupp, Rapid City, S. D.

FOR SALE Well-established studio in Central Minnesota town of 3,000; fine farming district, large territory to draw from; branch studio in connection; only one other studio, recently started; up-to-date equipment, steam heat, electric light and city water; reasonable rent. This is a fine opportunity for a first-class photographer. Address X. X. X., care "Camera Craft," San Francisco, Cal.

WANTED To trade for a good studio in Minnesota or Wisconsin; a good, modern home with all conveniences and all furnished; in one of the best towns in Willamette Valley, Oregon. Equity, $1,800. For full particulars, address H. W. O., care "Camera Craft," San Francisco, Cal.

XXI No. 10 OCTOBER, 1914 Price, 10 Cen

CAMERA CRAFT

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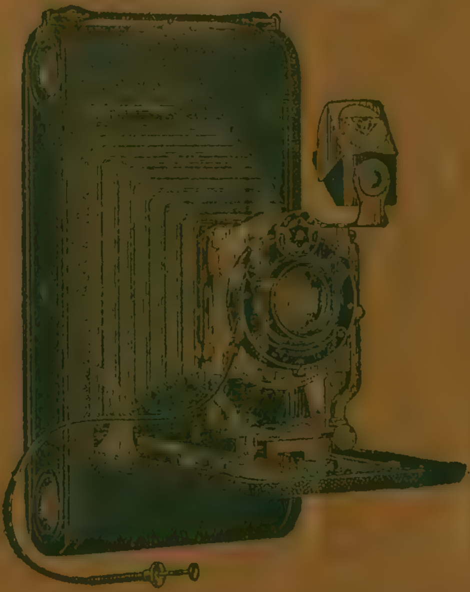

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CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY
FAYETTE J. CLUTE, Editor and Proprietor
CALL BUILDING SAN FRANCISCO CALIFORNIA
VOL. XXI OCTOBER, 1914 No. 10

A “Cold” Flame for Zoological Work

By Samuel Bradford Doten, M. A.
Entomologist and Director of Nevada Agricultural Experiment Station

With Illustrations by the Author

Some years ago I illustrated a paper describing the habits of certain insects by making series of flashlights of the living insects in action. The insects were tiny black creatures something like the smallest ants; the whole subject to be photographed was not more than the fourth of an inch in length, yet good photographs were obtained with a magnification of fifteen diameters and with all the depth of field obtainable with f-16.

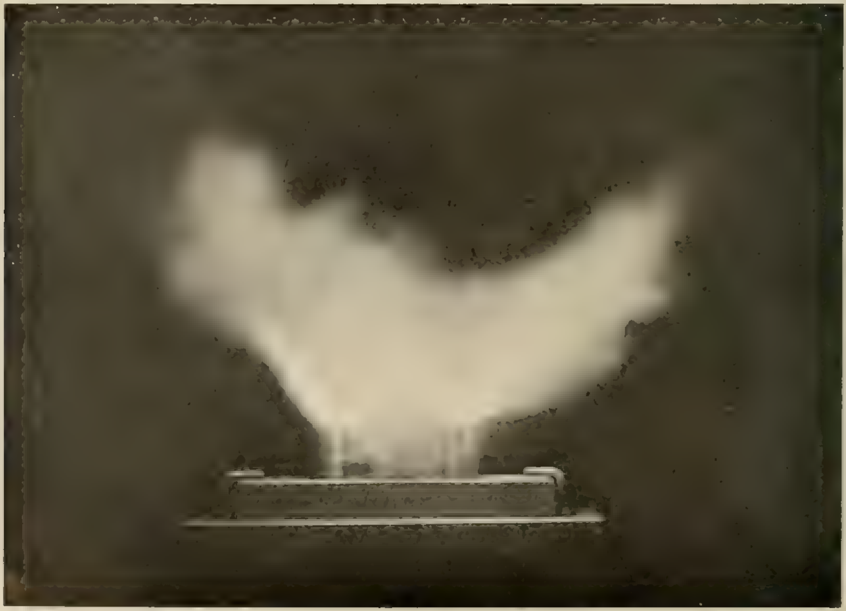
A small quantity of magnesium flash powder may give light equivalent to full sunlight upon an object six feet away from the flame. Then if the object is placed only six inches away from the flame, the light may be approximately one hundred and forty-four times as strong as sunlight; while at a distance of but three inches it may be vastly stronger. In practice it is impossible, of course, to place the object just six inches or three inches from all portions of the flame; but it is plain that if we can produce a small flame of magnesium flash powder only a few inches from the subject, then we shall have a light of exceedingly great intensity. Plainly, too, the lighting should be very soft and round; for, by comparison with the tiny objects photographed, the light source is exceedingly large.

These ideas were finally put into form by the construction of a little sheet-

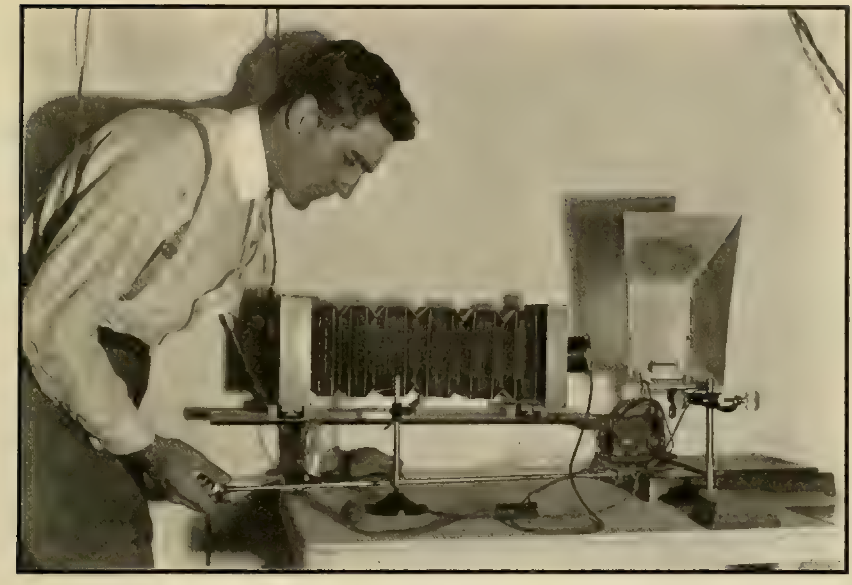
A "COLD" FLAME FROM SILVER WIRE—f-45. Note vapor flying from slot and jets of incandescent vapor from tops of pillars.

metal chamber with a glass front held in place by springs. The top and sides of the chamber flare sharply up and outward. In the chamber the contents of a number three gelatine capsule of the flash powder may be burned within just a few inches of the insect subject. This "lamp" and a switch for synchronizing the Compound Shutter No. 0 with the flash were turned over to the Bausch & Lomb Optical Company, of Rochester, in the hope that they may wish to manufacture such a zoologist's flash lamp for use with their smaller photomicrographic camera.

Still, the magnesium flash is slow. Its flame lasts for the thirtieth or fortieth part of a second. With the electrical synchronizer the highest speed of the Compound shutter is available; but the light on the plate is then weakened by its shorter duration; and it becomes necessary to use a larger diaphragm with consequent loss of depth of field. So two years ago I took up another line of experimentation and began to work upon a flashlight with the following seemingly impossible qualities:



"COLD" FLAMES FROM SILVER WIRE—The flame is about four inches by six: its color is yellowish-green, though to the naked eye it appears most intensely white. The flame may be observed safely by watching its image on the ground glass of the camera.



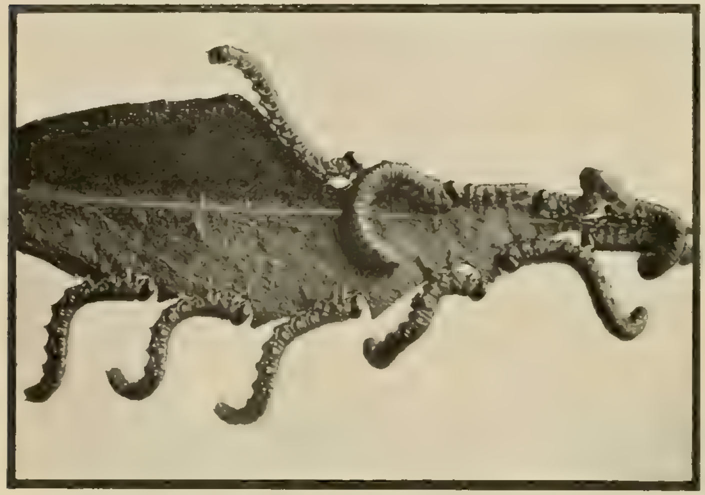
PHOTOMICROGRAPHIC CAMERA. A MODIFICATION OF BAUSCH AND LOMB STAND, TYPE H, WITH "COLD" FLAME LAMP CHAMBER AND SYNCHRONIZING SWITCH—Negative was made by burning an inch of No. 31 silver wire at a distance of six feet from the subject.

It gives a flash lasting about the two-hundredth part of a second. It gives more light than the full life of the flame from the quantity of magnesium flash powder formerly used. The flame is clean and smokeless. It is so cold that it does not burn the hand; and it is big and broad enough to give a soft and diffused lighting in the subjects photographed. The intensity of the light is so

"COLD" FLAME FROM SILVER WIRE.—The wire is vaporized by a Current of Electricity.

great that one can use f-45 at one diameter, f-32 at three diameters, and f-22 at six to ten diameters. These diaphragms give the depth of field so necessary in the photography of opaque objects.

The flame is cold. It is "cold" merely in the sense that it will not burn the hand. It is clear, smokeless, clean, and most intensely brilliant. The color is a pale blue-green or yellowish green; yet the light is really so extremely brilliant that I should use the smallest diaphragm, f-45, of the IIb Tessar of four and three-eighths inches equivalent focus, were it not that with only moderate magnification the light is broken up through diffraction by the edge of the diaphragm and the definition is poorer than with a larger opening. I found that the flame is cold, accidentally of course. Two or three flashes went off in my fingers without burning them; and then I tried to burn my hand and arm with more flashes and failed. We are now getting flames five inches high and nearly as broad from magnesium ribbon in inch lengths between magnesium posts; and they do not burn the hand. A cold magnesium flame seems a physical impossibility, but I held my hand over ten of them in succession and saw the intensely luminous flame shoot upward between my fingers, and then washed off every appearance of burn. Of course the next fellow who tries this may get precisely what ought to have happened to me, and it will serve him right for playing with fire.



SAW-FLY LARVAE EATING A WILLOW LEAF—Magnesium, flashlight. Victor Powder. Negative at three diameters. No reflector on shadow side; light brilliant but round.

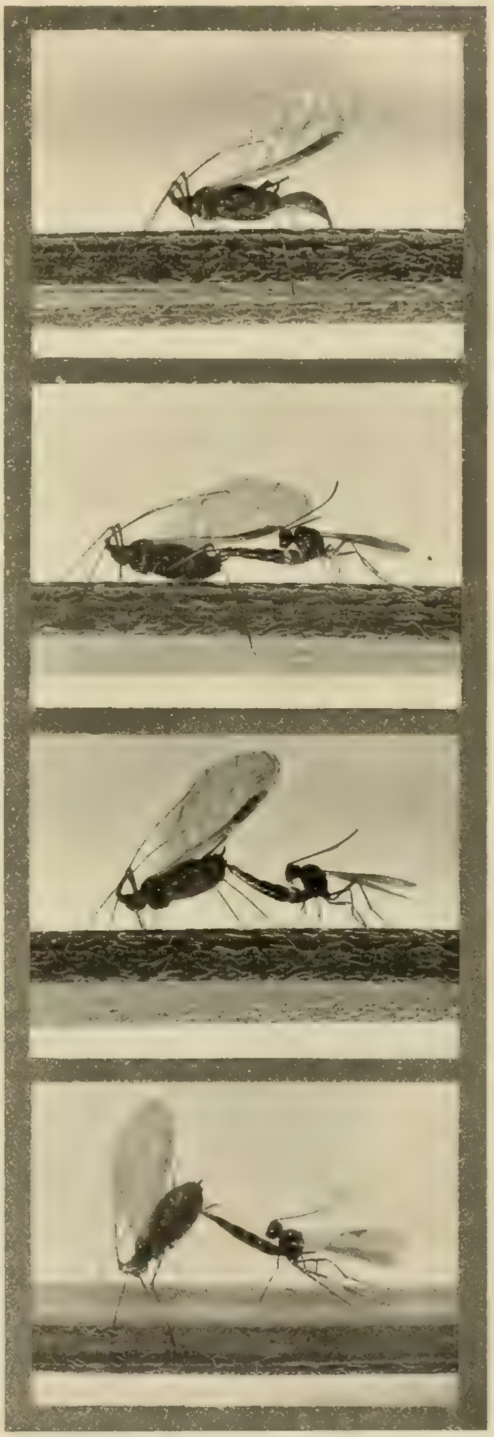
From the very beginning of these experiments the plan has been to develop a flame by the electrical vaporization and ignition of a fine wire in free air. A current of two hundred and twenty volts and undetermined amperage from the house wiring is switched through an inch fuse of fine wire. It explodes just as any wire fuse will under such conditions; it is vaporized and burned with a light so intense that it is dangerous to look at the flame with the naked eye. After watching a few, the eyes are apt to smart and even to become seriously inflamed. Bright objects seem surrounded by a halo, the sight is dim, unpleasant nervous symptoms appear, even slight nausea may develop. The flame should be looked at only through deep orange or ruby glass, preferably the latter. The character of the flame is well shown in the accompanying figure.

The mechanism by which this flame is produced is as follows: A little block of J. M. Transite asbestos wood carries two brass binding posts three-eighths of an inch in diameter and an inch high, with rounded tops; a strand of No. 31

B. & S. gauge silver or copper wire is clamped beneath them like a fuse in a branch-block. A knife switch whose blade may be thrown into contact at will very suddenly by a pneumatic release and a steel coil spring shoots a heavy current through the fuse. It is instantly vaporized, the vapor springs up from a slot in a block of transite placed over the posts. The vapor shoots beyond the tops of the posts, while from the top of each a jet of vapor pours out which is far more luminous than that from the wire itself. These jets of super-incandescent vapor are plainly shown in the accompanying figure.

For insect photography, these "cold" flames are produced like the flames of magnesium flash powder in a little sheet-metal chamber with glass front; it is lined with adhesive plaster insulation, but even after several hundred charges have been fired the insulation is not at all burned. The flame is only an inch from the glass and it is only three or four inches from the object. The fuse-block is pushed into the lamp from the rear, and when one is fired it is readily replaced by another; so that with film packs we may get good series of photographs of the same insect at work. The magnesium flash-powder lamp and the photo-micrographic camera are shown top page 479, but the photograph itself was made with the cold flame from silver wire.

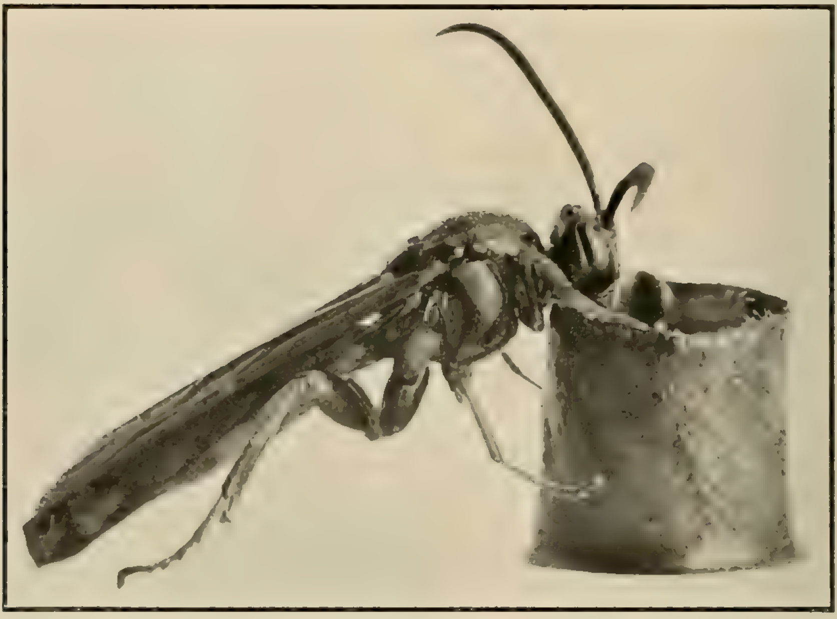
I have tested many sorts of fuse wire,—copper, silver, lead, aluminum, magnesium and carbon, between posts of brass, carbon and magnesium. I have tried various lengths of the wire and many different heights for the posts. Still, on the whole, the inch length of magnesium wire between



TOP: Plant-louse giving birth to young. THREE FOLLOWING: Plant-louse attacked by aphelinid parasite—at six diameters. Negatives all made by vaporizing magnesium ribbon.

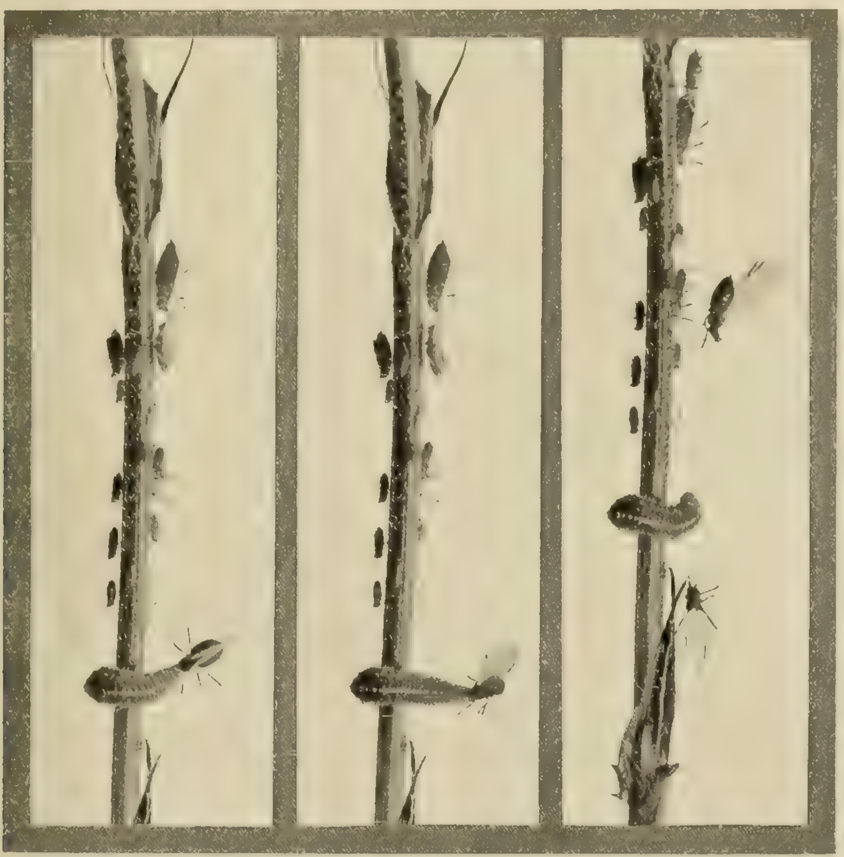
brass posts three-eighths of an inch in diameter and one inch high would seem to be the best of all. Strands of nickel wire are usually inflamed and vaporized with an intense blue-white flame. Silver gives a yellowish-green light of wonderful clearness and brilliancy. The flame from copper wire is greener than that of silver but equally brilliant. Magnesium wire between brass posts gives a greenish flame with a distinct bluish cast. With the alternating current the best flames are those from magnesium wire or ribbon, because they are surest and most uniform; but with direct current of one hundred and ten to one hundred and twenty volts all the metals tested between any of the posts will give flames uniformly sure and brilliant.

Details of the methods to be used in photographing insects really belong to the journals of entomology, and they will not be given here, but it may be of general interest to state that the accompanying photographs of the parasite which is attacking the plant-louse were made by first getting the stem into good focus, then putting on it a plant-louse which had been confined for some hours in a glass tube. It was hungry and began to feed at once. Then the little parasitic, wasp-like insect was released from another tube and encouraged to crawl along the stem. It bent its body from the rear clear around between its legs and then shot the body forward toward the louse. Just as the body shot forward beyond the head of its owner, I squeezed the bulb. The air current from the bulb was split by a y-tube with large opening toward the shutter and then a minute opening toward the pneumatic release of the switch. Thus a single movement at the right instant opened the shutter set at one-fifth second and then fired the flash before the insects could change their positions.



METHOD OF FEEDING PARASITIC INSECTS—Magnesium flashlight. Negative at three diameters, enlarged to eight diameters on bromide paper. The creature looks as big as a lion feeding from an ash-barrel; but the thing that looks like an ash-barrel is really a stub-end of an artificial straw dipped in beeswax and then filled with honey-water.

Now this "cold" flame has some other interesting properties. (So has the two hundred and twenty volt current when you pass it through your hand accidentally.) I shoot the flash sometimes in the dark-room with my eyes blindfolded by my arm. Then I turn and look at the plastered and whitened walls and find them glowing with a phosphorescent glow like moonlight. They have become phosphorescent on exposure to the flash, and you can walk across the little room and take objects from the shelves before the glow fades out. A folded towel with a piece of glass over it when held close to the flash will glow with a phosphorescence at first very brilliant, then fading rapidly for fifteen or twenty seconds. Paper glows in the same way after exposure to the intense light from the flame; glows so brilliantly, in fact, for a few seconds, that you can see the printing and the illustrations on the page, though only the coarsest print can possibly be read. It seems strange that paper, plaster and cloth, things not readily made phosphorescent, will glow in this way with an odd light of their own for many seconds after exposure to a light which itself lasts but a small fraction of a second.



SYRPHUS LARVA FEEDING ON ALFALFA PLANT-LOUSE—Negative at three diameters by burning silver wire. In the third figure the louse has been sucked dry and thrown aside. Tessar IIb, 5⅜ in. E. F., f-32.

This flashlight may possibly be useful in other fields of photography outside the region of zoological work for which it was designed. The photograph of the writer's assistant with the apparatus in use was made by burning an inch of silver wire. The arrangement and use of the lamp chamber, shown on stand at end of camera, will be explained in another article should the editor find that readers are interested enough to ask for further details.

Of course so small a flame will not invade the flashlight field very far. At best it could be useful only for portraits and small interiors, and it would then require the installation of special wiring. In the gallery it would have no advantage over a good magnesium flash-bag, and would give very much less light. Still it is interesting to know that there may be found other sources of flashlight besides magnesium flash powder. Who knows how far a trained electrician might be able to go in this field?

Taste

Beauty is a human necessity. Taste is the faculty of discerning and reverencing it. Sooner or later, in individuals, communities and nations, sordid monotony breeds discontent and the human soul gropes for an uplifting influence whereby it may mount to higher things.

There are some who have been more fortunate than their fellows. They have gathered from the rich heritage of the past, and they have watched the vines grow and the flowers bloom and have listened to the singing of the birds and to the melody in forest and in stream. They have learned Nature's universal laws of order; perfect fitness, unity, rhythm, balance and harmony. We say they are people with taste, and call them "cultured"; but others there are, a much larger number, unfortunately, who, while protesting against the ugly and sterile, have, in their search for beauty, been misled by the lure of the "Colored Comic (?)," the cheap show, and have become the victims of the cheap, gaudy and usually unsatisfactory articles. We say they are without taste, and call them "uncultivated."

The taste faculty, like other faculties, is developed only through continued exercise and repeated problems requiring a choice between the good and the bad.

Every time we make a selection for ourselves, our home, or our friends, we are revealing our true selves and putting ourselves on record as possessing taste or lacking it.

While it is true that a few will manufacture the things the many require, it is also true that the many will demand better things, and our manufacturers are awakening to the real value of the art quality in their products, and they will be quick to respond to these demands.

Profit to the producer as well as pleasure to the worker increases in direct ratio as raw material is advanced from the level of mere utility to the higher one that seeks to beautify and convey esthetic satisfaction.

In the accomplishment of today lies the hope of tomorrow—a prophecy of persons more charming, workmanship more valuable, work more joyous, homes, streets and cities more beautiful, and lives more noble.—C. Valentine Kirby.

The Problem of Exposure

By Raymond A. Cogswell

Editor's Note: *This article is the fourth of a series of five, the first of which appeared in our June issue, the last, dealing with Exposure and Interpretation, to appear later. However, each being separate and distinct, the reader should not feel that any individual article is incomplete. Mr. Cogswell hopes to awaken the average photographer's interest in the science that is just outside of his observation and reading. He himself has found the vistas that may be opened out from photography to be very interesting; in fact, he suggested to Hamilton Wright Mabie, some years ago, a plan whereby the camera could be made to share with the piano-player its value as a means of acquiring culture by those whose ambition and curiosity—and love of beauty—were sufficient to carry them forward, and Mr. Mabie elaborated this idea in one of his later articles.*

Innumerable articles have been written on the subject of exposure. The endeavor here will be to touch merely a few of the salient points in a theoretical yet, at the same time, a popular fashion.

The well-known researches of Hurter and Driffeld have shown that the chemical effect of light upon a silver bromide gelatine plate does not proceed according to a simple algebraic formula. In presenting the matter graphically, the curve indicating the relations between the amount of light as expressed by the time of exposure (using a constant light), and the chemical effect produced thereby, is seen to be divided into three sections. In each of these sections the relation is fairly simple, but nevertheless different from that of the others. These three parts of the curve correspond to periods of under, normal and over exposure.

It is found that, during the period of under-exposure, relatively more light is required to produce a given chemical effect than during the period of normal or over-exposure. This indicates that some energy is absorbed in starting the necessary reaction, in overcoming a sort of inertia of the emulsion. This being so, only as the reaction gets under way does the relation between light and chemical effect begin to approach the normal. The effect on the curve is to cause the line to slope up slowly from the X axis until it takes a fairly sharp bend and goes into the straight line of normal exposure. Here a given amount of light produces a definite amount of chemical reduction, and this relation continues until the liberated halogen increases to a point where a reverse reaction is set up. "Over-exposure" begins at this stage, with the result of gradually flattening the forty-five degree straight portion of the curve until it finally bends over and returns nearly to the X axis, doing this as the phenomenon, commonly known as reversal, proceeds.

The chemical principles underlying this curious condition of things are still in the realm of hypothesis, and we are here concerned with only the practical effect which the matter has upon photographic technic. A consideration of the straight portion of the Hurter and Driffeld curve leads to the conclusion that, once the exposure has entered fully into the straight line portion, lengthening exposure cannot alter the relations between the various light intensities of the picture, or the "tonal scale," as it is commonly called. The only effect of increased exposure up to the beginning of over-exposure is to increase the amount of silver deposited, making a denser negative, from which a longer time is required to produce a print; yet a negative which will, upon full printing, yield results identical with that from the thinner, yet still fully exposed, negative.

Making a practical application of these facts centers our discussion about the two portions of the curve in which the relationship changes, i. e., those portions indicating exposures which are, scientifically speaking, partly in the region of either under or over exposure. Considering first the under-exposure section, we find that on a plate truly under-exposed there is an almost total lack of gradation, with the high lights appearing as dense black patches. The reason lies in the failure to overcome the above-mentioned chemical inertia of the silver bromide emulsion. There has been sufficient exposure to get the brightest of the high lights well into the period of normal exposure, but in the short time during which light from the shadows in the subject has been allowed to act, the energy of this feeble light has all been absorbed in starting the reaction, in combatting the inertia of the emulsion, so that practically no reduction of silver has taken place. Even if it should happen that in the more strongly illuminated shadows some reduction of the silver has taken place, yet, in amount, this is still not proportionate to the amount of light received. This behavior would therefore blank off, as absolute blackness, all half tones which fell below a certain limiting value of light intensity. It will be seen from this that it is theoretically hopeless to attempt to coax out detail from an under-exposed plate, and we know that practically this is the case. With the exposure sufficiently prolonged to start the reaction in all but the deepest shadows, these portions of the pictures are still in the region of under-exposure, although perhaps nearly reaching into the normal conditions. The result will be a negative of considerable harshness; one probably lacking some detail, yet not seriously deficient, judging from accepted standards. In this class are most of the every-day "snap shots" made by camerists of limited experience who merely follow the directions of the guide book.

The period of full exposure need not be further considered, but as the limits of full exposure are approached, over-exposure in the brightest lights begins to appear, with consequent weakening of the reduction of silver, and the ultimate reversal of the reaction. Contrasts of light which were exaggerated during the scant exposure period now begin to decrease and fall below the natural values. The deeper parts of the shadows may be still well within the range of normal exposure so that the relationship is altered only at a few spots. But as exposure increases the reaction begins to slow up and finally the shadows themselves may come to a standstill and the highest lights, through reversal, be well on the return to clear glass.

Now, with a knowledge of the phenomena noted above, the photographer, if he be observant and skillful, has at hand a means of altering light relationships to suit the requirements of his subjects or his ideas, at least within the limits available with the particular plate he is using. He may accentuate high lights by giving under-exposure, or he may suppress them by giving an exposure sufficient to bring them somewhat into the over-exposure stage, while leaving the half tones and shadows still within the range of normal exposure.

Closely associated with the subject of exposure is the matter of the development. Practical directions as well as theoretical discussions abound, but only a single practical phase of the theory of development need be considered here.

THE GIANT PINE
By RAYMOND A. COGSWELL

It has been repeatedly stated that all developers, with a given exposure, lead to the same result in producing a negative. This is scientifically correct, but practically misleading. To produce identical results with different developers, the exposure must be completely developed, i. e., developed until the chemical reaction ceases. Very few ordinary "well-timed" plates will stand such development, and in actual everyday work, the photographer usually stops short of the completed stage. It is a matter of common observation that the process of development proceeds differently with different developers, even though the final results may be identical. Metol, for instance, starts the reduction of the silver bromide almost simultaneously in all portions of the plate, while hydroquinone starts very slowly, in the high lights first, gradually building up the image, gaining speed somewhat as development nears completion. Although the final results secured by means of these two developers, if allowed their full effect, may be similar, it can readily be seen that if development is stopped at some intermediate stage, the results will be diverse, regardless of the amount of exposure. This places in the hands of the photographer a means whereby he may still further modify, at will, the actual record of the subject that the exposure has made. In every-day practice, the range of such modification is fairly limited, because exposures are made on the basis of carrying development well along toward the stage of completion, but this control still exists and can be turned to account in a variety of ways. It has been the writer's practice to have only four standard solutions for developer, namely: one per cent metol, one per cent hydroquinone (both with the necessary sulphite), ten per cent potassium bromide, and ten per cent potassium carbonate. Using these standard solutions in varying proportions, one can compound a developer suited to any condition of exposure and suitable for plates, paper, X-ray work, or line reproductions, by taking advantage of the above-mentioned peculiarities in the matter of exposure and process of development.

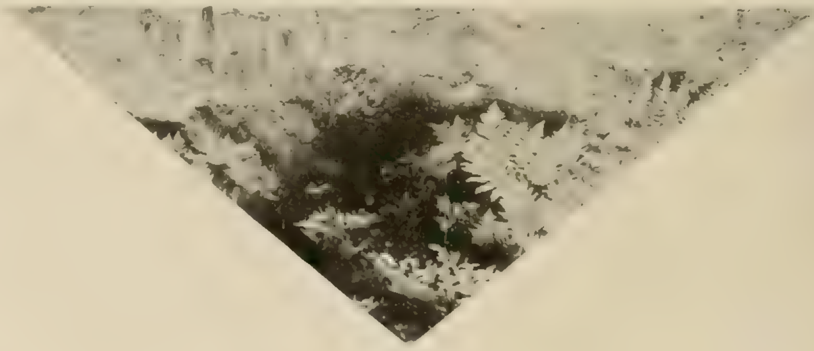
The writer has, up to this point, considered only the negative, assuming this to be studied as a negative transparency in which the light gradations are directly proportional to the silver deposit secured by light action followed by development. The final result, however, is the positive print, intended to be viewed by reflected light, and which, as a consequence, has a severely limited range of gradation in comparison with the negative viewed by transmitted light. It is outside the purpose of this article to discuss printing processes, but it does remain to point out that the peculiarities of the process used should be considered in discussing the whole cycle of operation. While it may be scientifically correct to say that a completely developed negative is a perfect replica of the light intensities of the subject, such a statement is often lacking in truth, rendered so by reason of the limitation imposed by the printing medium, which is really an integral part of the process. Obviously the exposure curve of the printing process must be maintained so that its straight line portion shall be adequate for the correct reproduction of the entire range of gradation of the negative, otherwise false renderings of the tonal scale of the negative will be produced. This, however, may sometimes be done by design, modifying still further the record of the negative to bring it to meet the whim of the photographer.

Love For One's Work

No man can make a success of any work if he cannot become enthusiastic about it; and you cannot become enthusiastic unless you like your work. Enthusiasm is necessary to make a success of it.

No man does so well as he might do if he is working at one thing and wishes he was doing something else. Study the work you are doing. Find out if you are doing it the right way. Try to discover a better way of doing it.

As soon as a man gets it through his head that there is a right way and a wrong way to every job, that man has taken the first step toward making his job interesting.—John M. Brock.



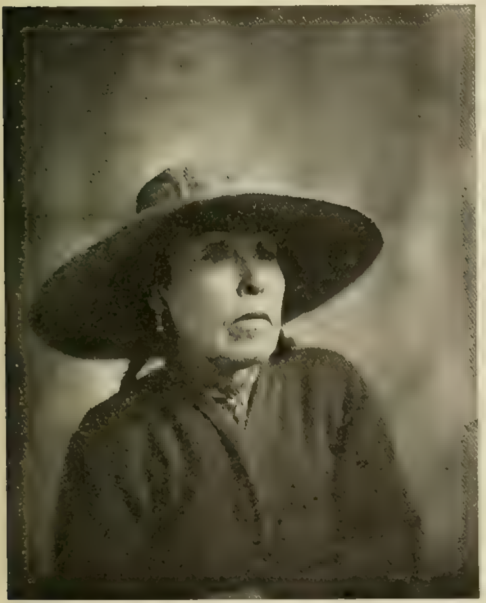
Photographing Brother "Lo"

By B. W. Leeson

With Illustrations by the Author

I have been looking under the black cloth for about twenty-five years; and, having always appreciated the value of the photographic magazines and the vast amount of information that they place at one's disposal, I can appreciate the justice of the editor's claim that I should try to impart some little information in return. However, my own experience has been confined rather closely to one line of work and I fear that my contribution can hardly be of any particular value to the average reader.

I practically live among the Indians of this territory and can speak Chinook, the Hudson Bay trading language, perfectly and their own Indian language fairly well. I have employed them as subjects for my camera for a number of years, with the result that my collection of Indian pictures has become fairly large. When I came here, the general opinion, in which I shared to some extent, was that these Siwash Indians were too dirty and uninteresting to be worth the trouble and expense of photographing them; but a few experiments in that direction showed me that the dirt and odor were eliminated in the process and, for that reason perhaps, people seemed to find the photographs



ANNIE ROONEY
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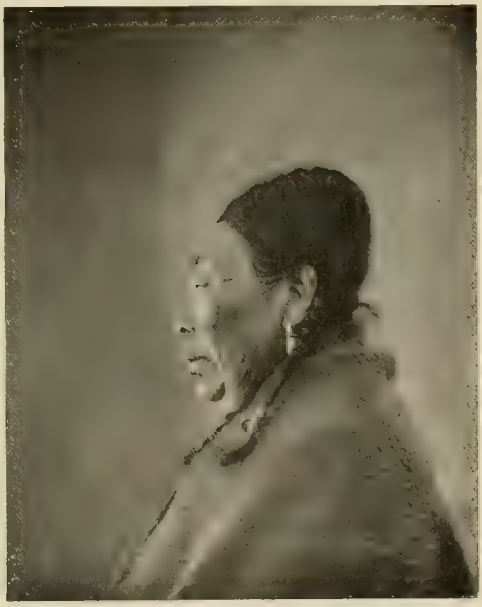

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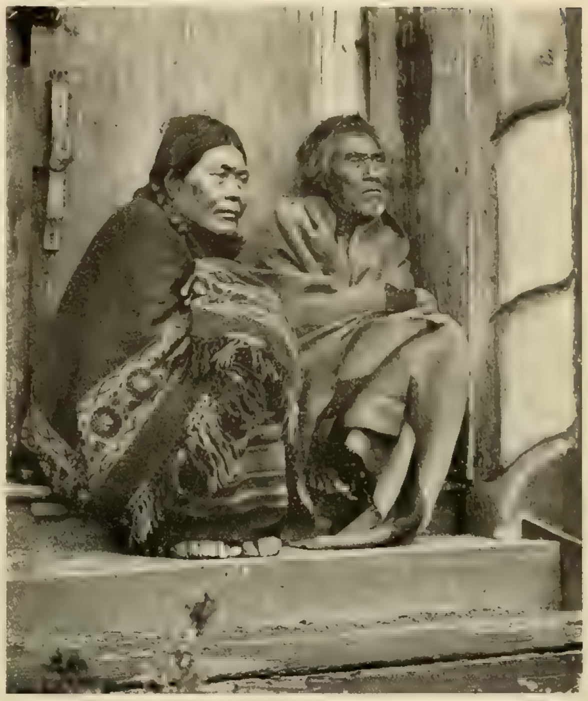
more interesting than the Indians themselves. The pictures have quite a little sale to tourists and others, particularly my more serious attempts at picture making, such as the one reproduced herewith entitled "The Passing of the Indian." This picture I have enlarged to 20x28 in royal bromide, toned and tinted, and it draws no small amount of praise from those who see and purchase copies thereof. The same subject in a straight 8x10 print is passed over in my collection without notice, proving to me that such pictures are more effective in a large size, and colored. Some of the Indian heads which I supply enlarged to almost life size, excite most favorable comment, particularly those like "Anna Rooney" and "Lady Warcas," that I have made under a skylight that was put in about two years ago.

The writers in the magazines dilate upon the importance of getting character into the portraits that one makes, but this is easier said than done in the case of Indian subjects. Occasionally, with a young member of the tribe, a good grin can be secured, but this is about the only variation that is possible from their habitually

YOUTH AND BEAUTY Copyrighted in Canada, 1914 rather severe expression. One of the portraits shown herewith gives some idea of the peculiar shape that is given the head by binding it between boards when young. One of my portraits, not shown because it does not reproduce well, is of "Pretty Jane," who has the longest head on Van Island. She is still alive, quite proud of her name, and has promised to sell me her head, when she is through with it, for seventy-five cents. This practice of compressing the heads of the infants has been discontinued for a number of years, and this type will soon be extinct.

Another picture that is a good seller, but also unsuited to reproduction, is one showing the holding of the last Potlatch, a picture made in the interior of a large and dimly lighted lodge. Around the sides and behind the figures are hung blankets; these last, together with the side walls, are shown decorated with paper money that has been pinned thereto and placed in split sticks all around the room.



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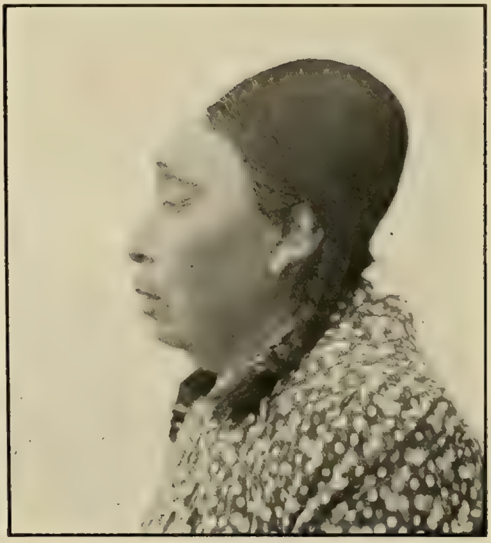
A SMILE FROM THE WEST COAST



THE BELLE OF THE VILLAGE
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BONNIE JEAN
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I have always appreciated the difference between a record photograph and a photographic picture and have made many attempts at the latter; the picture, "The Passing of the Indian," being one of my latest and most successful efforts. The figure is that of the last remaining member of the Klaskeno tribe, who lives with his wife here at Quatsino. I explained to him just what I wished to do, show him as the last of his tribe, asking him to look "sick tum-tum," and he responded quite well. These Indians amongst whom I am located are gradually dying out, and they are, at the same time, giving up practically all of their old customs and manners. With the passing of the present generation there will remain but little if any of the original Indian habits of life to record. They, particularly the older members of the tribe, are quite simple in their ideas concerning many things and imagine that my desire to use them as models indicates that I am deriving considerable revenue therefrom. This leads them to demand a money consideration for posing; and, while the amount requested is never very large, this cost, added to that of the 8x10 plates, acts somewhat as a damper upon the enthusiasm that might otherwise lead me to make a great many more exposures than I do.

COMING FOR THE BRIDE—INDIAN WEDDING Copyrighted in Canada, 1914

THE PASSING OF THE INDIAN Copyrighted in Canada, 1914

My general method of procedure is to take advantage of the liking of the younger Indians, particularly the girls, to fix up and be photographed. Asked to pose and they will rub on white paint, blacken their eyebrows and squeeze themselves into tight corsets, looking about as impossible, from a pictorial point

INDIAN VILLAGE—DANCE PARTY Copyrighted in Canada, 1914 of view, as they well can. I pose them inside some ranch enclosure with a good, strong front light, and then, with a little manipulation of the negatives, I make them look like beautiful blondes. They will each want one print; and, while they protest that a tintype man in Vancouver "took them for two-bits, all same." I try to secure a good price by explaining the larger size and other advantages. All the time I know that this particular subject has an old aunt or uncle whose picture I want, and bargain to supply the coveted picture if she will induce the old lady to pose for me, perhaps ten cents to the old person being necessary to close the transaction. The rest is a matter of selecting the most suitable location near at hand and getting the best possible picture without causing the subject to become impatient. This is best done by having the details of the plan worked out first; having some spot selected for the taking of the picture, making sure that the desired subject is about and in a good humor, and that not too many of the others are likely to interfere with the work.

All my pictures I have arranged and copied so that an 8x10 print shows a number of them with a plain number on each, thus forming a sheet of miniature pictures. On the back of these sheets I type a description of the pictures, giving their full size, and these sheets are sent to picture dealers and the like. From these the dealer can select those wanted or see just which ones are missing if he is already a customer, and send in his order. I also supply most of my pictures in post card form and these last have quite a satisfactory sale where tourists call and on such of the Coast steamers as I can get them.

All in all there is little to learn from my experience other than that one should take up the line of work that is nearest to his hand; and, giving it his attention and the benefit of his photographic knowledge, it can generally be made not only profitable, but gratifying as to results.

I like to see a man proud of the place in which he lives. I like to see a man who lives in it so that his place will be proud of him. Be honest, but hate no one; overturn a man's wrongdoing, but do not overturn him unless it must be done in overturning the wrong. Stand with a man that stands right. Stand with him while he is right, and part with him when he goes wrong.—ABRAHAM LINCOLN.

Home Sensitizers and Their Application

By Sigismund Blumann

To the busy man who takes to photography as a means of filling the odd minutes that lie between work and recreation, and to whom photography means only the making of records of incidents and places, I recommend the method so well worded in the ancient motto of the Eastman Company: "You press the button, we do the rest." He had best not make his own prints. The same firm that develops his negatives will deliver prints therefrom. Or, if the first glimmering of an interest dawns upon him and he would give a few minutes of his time to printing his own pictures, let him buy and use any of the innumerable papers on the market; they are all good.

But there is a great pleasure in store for the amateur pictorialist who has never tried making his own paper to fit the negative and the nature of the subject. There are possibilities in putting pictures on postal cards, letter paper, handkerchiefs, and wooden boxes that will add still another charm to a hobby that grows with years, that improves the man as he improves in skill. And here is an important point: It is cheaper, when working in small quantities, to make your own paper, and you can have your pictures in any old color on any old thing, as you wish.

In what follows there is not one original idea, but the reader is assured that every formula and method given has been tried again and again, has been put to careful tests, and is not only right (with the good grace of Providence and the typesetter), but probably the simplest of many given over a period of ten or twelve years in the photographic publications. All that is difficult is the getting of fresh chemicals and an ever-careful watch for chemical cleanliness. Sensitive salts do not brook contamination. And be pleased to remember that sensitized paper is just as susceptible to the influence of light as if the factory had made it,—even when you have been the maker.

It has been the writer's habit to size the more absorbent papers with whatever happened to be handy,—Higgins' Photo Paste, Knox's Gelatine, arrowroot, gum arabic, etc.; but this course is not recommended. Use such a support as has sufficient body to hold the sensitizer on the surface to begin with. Postal cards, cheap as the stock is from which they are made, take nicely to Kallitype (the buff ones) or to blue print (the white sort), and so do most letter papers. Should you develop a taste for antique finishes, use arrowroot sizing and make it fresh once a week. There are ways of preserving sizes, but my experience has been that borates, essential oils, etc., affect the final result.

Provide a medicine dropper, some clean absorbent cotton, a few strips of canton flannel, a piece of stiff celluloid, and a clip clothes-pin. These are the tools. Make a small mop of the cotton at the end of the dropper and tie on with white thread or an elastic. And renew the mop for about every four or five sheets of paper you sensitize. When the cotton shows evidence of losing its fluffiness and becomes hard or soiled, renew. Figure 1 shows the dropper-mop.

Cut the celluloid—I buy a pair of celluloid cuffs and sacrifice them to this better cause—to size about 2x5 or 2x6 inches. Cut the canton flannel a quarter inch wider and two inches longer. Lay the cloth, nap side down, on a table, put the celluloid strip on top of it so that an even margin of the cloth shows on all four sides, fold over the inch of goods onto the celluloid, then double end to end and clamp together with a clip clothes-pin. Figure 2 shows the method of doubling the materials, and Figure 3 is the completed spreader or blender. When the canton flannel shows signs of seediness, renew it. Put these in a box and label, "Tool Kit for Home Sensitizing."

Now for the chemicals. Here you will not get off so cheaply, and care is required in the buying. The items are given for the several processes under their several heads. Remember that all iron salts must be in crisp, one-colored crystals or flakes. When they show several colors or are matted together, they are worthless for your purpose. Do not be too good a business man and buy pound bottles because the percentage is so much in your favor. An ounce at a time is cheapest in the long run. Let the chemicals spoil on the dealer's hands, not on yours. With an ounce of several salts and a few quarts of water you may sensitize the walls and ceilings of your favorite rooms and so prove the home sensitizer. Therefore why indulge in wholesale buying?

When ingredients are given in a certain order, mix them in that order. No, it is not just the same to mix all together and pour water over the mass. Use distilled water in every case where nitrate of silver is given. Nitrate of silver in absolutely pure water will stand light, but if organic matter be in the water, the solution must be kept in absolute darkness and may spoil even there.

The blue print is cheap, simple, despised; yet if you will give it careful treatment you will find a beauty of color and delicate gradation that make it almost the equal of the platinum print. Do not permit the contempt for it to make you careless in compounding the sensitizer. All iron salts are rather delicately balanced and nature does some peculiar juggling with the ferrous and ferrics if you give her half a chance.

Ferric oxalate, let me warn you now, is good for about ten minutes after the cork is out. Sometimes it isn't any good before the cork is withdrawn. But you are safe if the flakes are light in weight and shiny. And now for the first actual start to do something.

BLUE PRINTS

A properly compounded sensitizer, properly applied and manipulated, may be relied upon to give a beautiful blue print. That is, the blue will be beautiful; the beauty of the print otherwise depending upon the negative. But, dear reader, do not try for browns, or greens, or purples with a blue sensitizer. There are those who will tell you of after treatments with tannin and ammonia, and carbonate of soda, etc., etc., ad infinitum, which means till they make you tired. The mission of a blue print is to be blue. Such means as may be offered to make it otherwise only give degenerate tones. The tannic acid brown is not brown, but dirty black; the ammonia or carbonate sodium purple is a spoiled blue. The only improvement to be gotten by after treatment is to dip

A MOUNTAIN STREAM By A. E. DAVIES

for a minute in a one per cent solution of hydrochloric acid, wash thoroughly, and thereby get a bluer blue.

Here comes the formula, and I guarantee it will work on any paper, having used it on wood-pulp wrapper with success:

A:	Green ammonia-citrate of iron	½ ounce
	Water	2 ounces
B:	Potassium ferricyanide	320 grains
	Water	2 ounces
C:	White dextrin	96 grains
	Water	2 ounces
D:	Potassium bichromate	96 grains
	Water	2 ounces

The standardization of water proportions is not merely a quaint conceit, but is part of a system adopted in my laboratory work. By reducing all formulæ to a unit on the one ingredient common to them all, that is, water, it is possible at any minute to compare the percentages and connect the solution used with the results obtained. It also develops in the manipulator's mind an instinctive faculty of estimating quantities, understanding in advance results likely to follow percentages, and, in fact, reduces to mathematics what is often mere memory or, worse, guess.

Mix the solutions given above in the proportions of equal quantities of A, B and C, and, if too viscid, add to every ounce of the mixed solutions, say, a quarter ounce of water. The bichromate solution serves two purposes: to render the dextrin insoluble when exposed to light, thereby keeping the print on the surface of the paper, and to give contrast. Use solution D in drop doses, therefore adding to the finished sensitizer about five drops to the ounce; rather less than more.

Having thoroughly mixed, pour into a wide-mouthed, brown bottle and keep from the daylight. Let it season overnight,—well corked. To use, take the medicine-dropper-swab, expel the air from the bulb, dip the mop into the bottle and let go the bulb. The sensitizer will now suck up into the tube. Dip into water and rinse around a second or two to surface wash the cotton; and, after a quick rub over a little piece of clean muslin to take off the superfluous water, start painting the paper across, then down,—working with a light hand and quickly. Lay the mop on a clean glass or dish, and with the spreader smooth out the still wet sensitizer. Do not rub, but lightly smooth out. If you will do this by night, you may lay the sheets of paper out to dry with no special precaution. Quick drying before a gentle fire gives better results, but remember that too much heat changes the chemical nature of the solution and spoils the whole thing.

It has taken five minutes to tell how it is done and in that time I could have covered and laid aside a dozen sheets of paper, each 8x10.

To print: Select a dry, sunny day, print by daylight and, if you have the time and patience, do not print in the sun. Sunlight, it has been repeatedly said, and by the best authorities, gives inferior results. I have not been able to note this in my own experience, but will not deny the words of my superiors. I—being impatient and short of time—print in bright sunlight, and even hurry the printing by fuming over a saucer of ammonia just before use. To him who would make paper in large quantities and store, I say, Don't. But if he must and will, let him add a grain of oxalic acid to every ounce of sensitizer as a preservative.

Print till the picture shows in a peculiar bluish-gray on the yellow paper. Examine in weak light. When properly exposed, wash in weak light, passing through several trays of water, which change after every half dozen prints. Running water is not advised. Dry between blotters and do not iron out with a hot flatiron, as a friend once did, and get spoiled prints. If well washed, the print will outlast the paper on which it is made. Just how this might be I cannot imagine, but it is said to be true of platinum, and platinum hasn't "got anything on blue print" for durability.

This really and truly is all there is to making, printing, developing and fixing the blue print. There are as many formulæ for this process as for every other, but I have tried perhaps a dozen different proportions and can conscientiously assure the reader this will do best in every way.

SEPIA PAPER

There was on the market, some time ago, a paper that by simply printing, and developing in weak hypo, gave a beautiful brown print. This paper was taken off because of its poor keeping qualities, and also (take note, you Eastman experts) because it had a habit of going on printing after it was taken out of the frame. I have underprinted a sepia paper by one-half; and, by leaving it in a dark box for fifteen minutes, have gotten an overprinted picture. Also,

SHALLOW WATERS By A. E. DAVIES

when placed face to face, it would react, one sheet acting on the other as with light. Just what catalytic action took place I cannot say. The paper is worth making on the following modified formula and will give splendid results with negatives having fair pluck and not too much fine detail.

Soften any hard gelatine in water overnight, six grains to the ounce; next day complete the dissolving in a double boiler, and, when cooled somewhat but still warm, add, in order given:

Tartaric acid	8 grains
Nitrate silver	9 grains
Citrate iron and ammonia	40 grains

Filter lightly through absorbent cotton when thoroughly dissolved. Apply just as the blue print solution. Print in diffused daylight somewhat darker than Solio (again I print in sunlight), wash in several changes of water and fix in:

Water	2 ounces
Hypo	25 grains

Wash in several changes of water and dry as in blue printing. That is all. Again, let me say, this will give fine, rich browns; but should the worker so desire, he may spoil the purity of the color in several ways. Let others lead him astray. I shall not tell him how.

There is a complicated German formula credited to Liesegang, and another about the same in Italian, said to have been discovered by Larus, but the basic principles as laid down by our old friend Abney when photography was young and our forebears were yet studying the original editions of Draper, cover the subject without frills.

KALLITYPE

All this time I have been teasing myself, keeping back from my favorite process: Kallitype. It is a beautiful and exciting way of getting just exactly what you want. You may have brown, blue, purple, red, blue-black (very like amidol on bromide paper), sepia, ivory black, etching brown, or rich platinum blacks and grays, all from the same sensitizer, and you may have soft or contrast prints from the same negative and the same exposure by omitting or adding a few drops of bichromate to the developer. Also, you may change at will the finished print to a gold or a platinum toned print; fix out the silver and have a true platinum, or still again you may add neutralized nitrates of various metals, or mecanites, and get any old kind of a print ever written about. It is a wonderful medium, this periodically rediscovered Kallitype. I have read whole books on the subject and have gotten to where I can compound my solutions without a scale and with a ladle—my esteemed friend Clute says my middle name is Kallitype—and the formula I have boiled the whole of my knowledge down to is one that Mr. Thompson modestly gives with fewest directions and a least number of ingredients. There is a print on my walls, made many years ago from the Thompson formula, that has survived the vicissitudes of many changes of climate, temperature, etc.; one that has been in bright sunlight till the paper is yellowed, yet the print is as fresh and pure toned as the day it was made.

This is the formula as given by Mr. Thompson:

STOCK SOLUTIONS

A:	Water	1 ounce
	Ferric oxalate	96 grains
	Gum arabic	10 grains
B:	Water	1 ounce
	Ferric oxalate and potassium	30 grains
C:	Water	1 ounce
	Oxalic acid	60 grains
	Ammonia	25 minims
D:	Water	1 ounce
	Bichromate of potassium	30 grains

The ferric oxalate should be, as before stated, in crisp spangles. When you have taken what you need from the bottle, put in dry, clean absorbent cotton to fill the space, and cork. Drip melted paraffine over the cork and top of bottle and make a hermetic seal. You may thus save the rest for another time.

In mixing C, dissolve the oxalic in the water completely, then add the ammonia drop by drop. After a little crystals will form, which may or may not redissolve as you add the full amount of ammonia, but do not permit this to worry you. By putting the bottle in water as hot as can be without cracking the glass, these crystals will dissolve.

For use in winter or on dark days or for over-exposed negatives, mix as follows:

A, one ounce; B, one-half ounce; C, thirty-five or forty minims; D, five or seven drops. Just before using, dissolve six grains nitrate of silver to each one hundred and twenty minims of the above mixture. For bright days, or for underexposed negatives, mix as follows:

A, one ounce; B, two-thirds or one ounce; C, thirty-five or forty minims; D, none. Just before using, add nitrate of silver as above, in same proportions. This conforms to ultra expert manipulation. My own way has been to make one sensitizer serve all sorts of weather and negatives and to modify final results in the developer, which was done with the following sensitizer:

A, one ounce; B, one-half ounce; C, thirty minims; D, four drops. Just before using, thoroughly dissolve six grains of nitrate of silver to each one hundred and twenty minims of the above mixture.

Apply just as for the blue print. There is one thing to be said about Kallitype. You may apply it to any support,—paper, wood, celluloid, cloth, or anything else to which it will stick, without any preparation; but it will be found worth while to use the best papers and to size them, to coat the celluloid or wood or cloth with a good sizing, and to conscientiously proceed to make good prints. The possibilities warrant the care.

My favorite sizing is arrowroot, which gives a velvety surface and does not streak. It is also fairly simple. I dissolve two or three grains of the arrowroot in an ounce of water and then boil gently till the solution turns clear. I make a liberal quantity and soak the article to be sized therein, then hang up in a clean place to dry. The sized paper will keep indefinitely in a dry place.

Print till the image is faintly visible in a sort of pale lividness and develop in the following, taking whichever solution you prefer according to the color you desire in the print. For rich black:

WARM SPRINGS CREEK By A. E. DAVIES

Borax	45 grains
Rochelle salts	30 grains
Water	1 ounce
Solution D of the sensitizer	1 to 3 drops

The function of this solution D is the same as that of bromide in developing Velox paper: to produce contrast. The less borax and the more Rochelle salts used, the browner the tones. Omitting the borax altogether and increasing the Rochelle salts up to twenty-five grains will give sepia tones. A beautiful maroon color may be obtained by increasing the Rochelle salts up to forty-five grains and adding twenty grains of tungstate of soda instead of borax.

When fully developed, clear in a second tray containing the same developer diluted with an equal quantity of water and with two additional drops of bichromate or D solution added thereto. Lastly, wash in several changes of water and fix in:

Water	1 ounce
Hypo	24 grains
Strong ammonia	6 minims

Wash thoroughly and dry between blotters.

There is another developer that gives bluish blacks of such velvety blackness that I cannot forbear lengthening this article by giving it. First dissolve one ounce of acetate of soda in seven and one-half ounces of water, calling it solution E. Then mix:

Solution E	2 ounces
Tartaric acid	5 grains
Phosphoric acid	5 minims
Solution D	10 to 50 drops

The print may be cleared, after development, in:

Citrate of soda (poison)	30 grains
Citric acid	5 grains
Water	2 ounces

If this produces prints that are too thin, add a little more of the citrate of soda. Fix as in previous case.

The tones thus made obtainable by the novice range from true brown to absolute black. Also, a divergence has been made to maroon. Should the readers of Camera Craft evince an interest in the matter, it shall, at some future time, be my pleasure to take them through the whole scale of the rainbow without making one change in the sensitizer. Verily, this Kallitype is "some process."

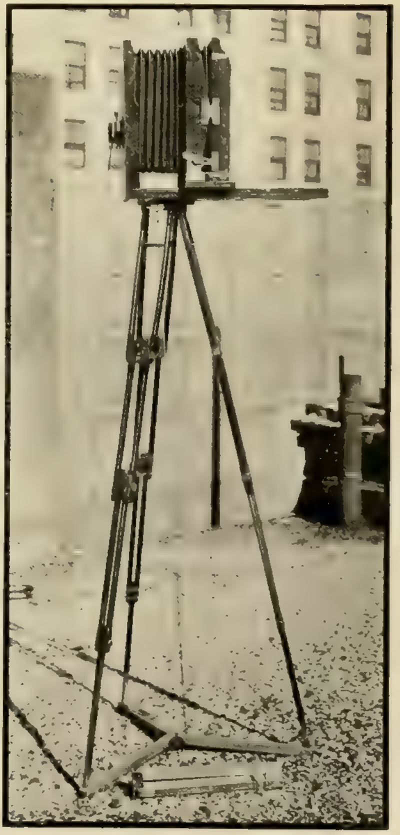
Make no little plans; they have no magic to stir men's blood and probably themselves will not be realized. Make big plans; aim high in hope and work, remembering that a noble, logical diagram once recorded will never die, but long after we are gone will be a living thing, asserting itself with ever-growing insistency. Remember that our sons and grandsons are going to do things that will stagger us. Let your watchword be order and your beacon beauty.—Daniel Burnham.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—The Editor.

A TRIPOD STAY: After trying all of the schemes and apparatus offered for sale in this country since 1878 for keeping a tripod from slipping on sidewalks, slippery floors, iron cellar door covers, and the like, I at last altered one of the several to fit my ideas and secured something that has never failed me under any circumstances. It has only one drawback, that a very slight one, namely, one leg of the tripod cannot be shortened very much more than the other two when it is necessary to tip the camera a great deal. Despite this, I have found it the most useful accessory that I ever used. One will find the original catalogued as the "R. O. C. Tripod Truck"; no doubt quite convenient for portraiture with an ordinary camera used in a room; but if employed for commercial work, one will find that he has to chase his camera about twice around the block before being able to insert the plate holder. This is, of course, on the supposition that a stock view camera is being used. If, however, one will take this truck, pull off the castors, remove the lock which holds the three arms in position by filing off the head of the rivet by which it is held in place, and then take out the three nice, round-headed, blue steel screws and put them to some useful purpose, he will be on the road. Next remove the three "snares" that are supposed to sort of hold the truck and tripod together, turn the truck bottom side up and insert a screw-eye in one of the arms near the center, to this last attach about one-third of an ordinary screen-door spring, and to this spring attach a good stout cord, something like seine cord used by fishermen. Finally he should put a small screw-hook on the under side of his tripod head, when, having put the



spikes of the tripod legs in the holes from which he pulled the castors and attaching the string to the screw-eye under the head of the tripod, he will find that he has his tripod, camera and truck in one piece so that he can pick it up and carry it around wherever he desires to use it. One can move it one-fourth of an inch in either direction without changing the level of the camera and one does not have to stop and find an absolutely even place to put the tripod before letting go of it. The tension of the spring (if the tripod is heavy enough to properly support the camera) has a tendency to make all quite rigid. The accompanying photograph shows how to put the thing together. It makes but a slight addition to one's outfit and I can assure my fellow workers it is well worth adding. This is not original, but an adaptation of two or three ideas.—C. J. Hibbard, Minnesota.

A CHANCE FOR CHEMISTS: An article in *The British Journal of Photography* about thirty years ago stated that a non-actinic white light was possible by the use of a solution one of the principal compounds of which being tetrotheocarbamidamonium (a rather big word to pronounce without study beforehand), contained in a flat vessel of transparent material like glass. If some smart chemist will take the trouble to make a few experiments, on the strength of this hint, and have the good luck to achieve something along this line, there would be many of the photographic fraternity who would feel very grateful toward him, and he might, by commercializing the results, make a fortune for himself. As I remember the item, the chemicals absorb the violet rays in their passage through the compound, thus making the light non-actinic.—Theo. E. Peiser, San Francisco, California.

PHOTOGRAPHING A GRATE FIRE: I have been making some flashlight pictures in which I wanted the grate fire to show as burning, but not as the source of illumination, this last being a reading lamp beneath the shade of which a strip of magnesium wire was burned. Try as I would, I could not succeed in getting the desired effect by putting a little of the flash powder on the fire, as it exploded instantly with an effect not at all like that of a real fire. An old professional to whom I showed some of my results advised that he had, years ago, secured a very good effect by putting a small handful of saltpeter on the coals or burning wood at the instant of exposure. This I tried with the most gratifying results and am only sorry that I have no examples at hand that I can send.—W. F. H., Missouri.

SENSITIZER FOR POST CARDS, ETC.: Distilled water, ten parts; silver nitrate, three parts; uranium nitrate, thirty parts; and absolute alcohol to a hundred parts. The material, whatever it may be, requires no previous preparation beyond sizing. The solution must be brushed on, and allowed to dry in the dark—which does not take long. When printed, it needs no toning, but is fixed in two or three baths of water acidulated with nitric acid, and washed. When warm tones are desired, the material is dried in front of the fire, or ironed on the wrong side with a hot iron. Very good results may be obtained with this on silk, pocket handkerchiefs, post cards, and other things besides. The solution must be kept in a bottle covered with opaque paper, or else in the dark.—E. A. C., Oregon.

CAMERA CRAFT

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A New Light

The first article in this issue is one that should be of considerable interest to many of our readers, and, we believe, one that marks the introduction of a new power in the hands of the photo-micrographer at least. The production of an illumination having only one two-hundredths of a second duration, yet strong enough to permit of stop f-45 being used, is no small achievement, particularly as the apparatus is quite inexpensive to construct and when used is entirely free from the production of smoke and powder in the air. While the idea may not be entirely new, neither Mr. Doten nor ourselves have any knowledge of a previous publication of the idea. Further articles from the pen of the same author have been promised and we believe will be found as interesting as is the present excellent contribution.

Our Contributors and Our Readers

In our August issue we took the liberty, both with Mr. Feather's letter and our readers' indulgence, of employing the one and assuming possession of the other, in an editorial under the above caption. While Mr. Crum has not been heard from at this writing, Mr. Lemon called to express his gratification at the appreciation expressed; Mr. Towers, who has moved to this city since his article appeared, did the same, while Mr. Thurston and Mr. Raymer both wrote in the same strain. Perhaps I can do no better than give our readers the letter from the latter, Mr. Raymer being somewhat of a public character through his long experience as a demonstrator at State and national conventions. He writes:

> My dear Mr. Clute:
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> I have just come across Mr. Feather's letter in your August issue and wish to thank you for your kindness in publishing it so that we may also have the pleasure of knowing that our work has been appreciated. I believe that I am not alone in feeling gratified and grateful on occasionally hearing of some good that I may have accidentally done some fellow worker. It is so frequently the case that we hear of offenses given, while not being advised of any good that may have been conferred.
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> A gathering composed of all of the readers and contributors of Camera Craft would be interesting, if it were possible to get them together in one big convention of their very own. While I have not contributed to Camera Craft as much as I would like to have done, I certainly would insist upon being counted in on a gathering of this kind, and, were there anything in the way of demonstrations, I would put on my best bib and tuck, and what I would do in that line would make the gathering sit up and howl for help. Yes, we fellows who happen to write something that sometimes does good, certainly do appreciate a hearty "thank you" more than words can tell. It goes down deep until it reaches the very heart and there it rests for many a long day. We are all human, all alike, and appreciate recognition of our efforts to help others.
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> Well, be good, until 1915 anyhow.
>
> (Signed) Felix Raymer.

We are doing this simply to dispel the idea that many of our readers seem to possess that our contributors do not care to be bothered with correspondence on the subject of their articles. Of course, few of them would care to write pages of elementary photographic instruction in order to help out some worker too lazy to purchase and acquaint himself with the contents of a cheap instruction book; but any and all of our contributors would be more than pleased to hear from a few of our readers who cared to thank them for the information contained in their articles or who might desire further details that the author could give. Time and again our readers write me asking questions concerning some particular articles, questions that have to be forwarded on to the author by me. Is there any reason why the reader does not address his queries direct, doing so by writing the author in care of this office. Will our readers kindly bear this in mind?

Steadman's Unit Photography

Frank Morris Steadman, too well known to our readers to require an introduction, advises that his book, "Unit Photography," is practically ready for delivery. This is a work that has occupied his attention during the past few years, and, while our copy has not reached us at this writing, we have no hesitancy in saying that it will prove an epoch-making production. As Professor Goodspeed of the University of Pennsylvania, one of the best-known educators in this country, endorses the book by his own assistance and collaboration in its preparation, our own endorsement thereof can add but little to the appeal that this is intended to convey to those who are interested in a clear and logical presentation of the factors governing the action of light, in its application to photography, and a method of employing these factors that is reasonable and consistent, as well as simple and convenient. When Mr. Steadman was in San Francisco some few years ago he repeatedly demonstrated the ease and correctness of his method before the members of the local photographic societies, both amateur and professional, as well as numerous individual workers who profited greatly thereby. In recommending his announcement in our advertising pages we are speaking whereof we know; look it up, act thereon, and you will thank us for the opportunity.

The Work of W. H. Rabe

The display walls of the California Camera Club have recently been occupied by a very fine collection of photographic pictures by one of the Club's members, W. H. Rabe. The work of this artist is quite distinctive in the quiet and sympathetic treatment given subjects such as the average photographer would hardly consider as adapted to his pictorial requirements. Not that Mr. Rabe selects the uninteresting and commonplace, but rather, that he possesses in no small degree the happy faculty of appreciating the pictorial possibilities of the scenes that come before him and has the power to endow them with a full measure of the charm which so many of his brother workers fail to perceive they possess. Mr. Rabe has sent, in a modest way, a few of his pictures to some of the recent exhibitions and their uniform acceptance and occasional earning of an award have done much to encourage him in his work. His most recent productions show no little improvement over the excellent ones which we had the pleasure of seeing some two years ago, and his future work will certainly show still further advance.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Sepias With Schlippe's Salt

Some years ago there was published a formula for producing sepia and brown tones by means of Schlippe's salt (sodium sulphantimoniate) and an acid metallic bath, vanadium chloride being recommended as the bleaching agent. A recent visitor explained that he had set about trying the method, but the price at which the latter chemical was quoted by his dealer caused him to give up the idea. Some time ago he came across a formula in which this costly chemical did not figure and he gave it a trial, with results most pleasing, judging from samples which he showed us. As these examples of toning were several months old, the process seems to be fairly conducive to permanency, if not absolutely so. The alternative bleaching solution used is made up as follows:

Potassium ferricyanide..	180 grains
Potassium bromide	60 grains
Water	20 ounces

The bleaching is fairly rapid, followed by a short washing in running water, after which the print is immersed in:

Schlippe's salt	1 ounce
Water	20 ounces

This last causes the print to turn to a yellowish red when it is placed directly into a five per cent solution of ammonia to soak for a few moments. Again washing in running water, it is placed in the final toning bath, made up as follows:

Copper chloride, ten per cent solution	1 ounce
Hydrochloric acid, ten per cent solution	1 ounce
Water	20 ounces

A half hour immersion results in a handsome sepia or rich brown tone, when a final washing and drying is given.

The advantages of this process over the ordinary sulphide process lies in the almost entire absence of disagreeable odor and the necessity of having the original print of a quite vigorous nature. In addition, there is a lack of yellowness, such as results when attempting to tone a soft, delicate print sepia with the sulphide process. If a print having a brick-red tone is desired, one may substitute a platinum bath for the copper one given above. This may be made by dissolving a fifteen-grain tube of potassium chloroplatinite in one ounce of water, with the addition of a little hydrochloric acid. Put one drachm of this solution in ten ounces of water and add one drachm of a ten per cent solution of hydrochloric acid. Placed in this toning bath, the print soon gains the desired red color when it must be washed in running water for a few minutes and then treated to a weak hypo bath. If immersed in the platinum bath for the completion of the toning process, the print will finally assume a rich brown tone and will then need no hypo bath, merely the few minutes' rinsing or washing.

The original print must be thoroughly fixed in a hypo bath of sufficient strength to remove all the silver, and the washing following this fixing must be thorough enough to remove all the hypo. The only other precaution that needs attention is that in regard to the Schippe's salt bath being followed immediately by the diluted ammonia. Failure in this last will be quite sure to result in degraded whites.

A Piece of Wash-Leather

Wash leather proper is a split sheep skin dressed in oil to imitate chamois and is used for dusting and washing of polished surfaces. The genuine chamois skin, which is better but more expensive, is itself often given the more commonplace name. However, what I wish to get at is the utility of this simple article about the workroom of the photographer. Thoroughly wet, wrung out and then folded into a flat pad, its use in wiping off the face of a negative before placing away to dry will insure freedom from "tear drops," drying streaks, marks due to uneven drying, and at the same time remove much dirt which the gelatine film always catches if the wash water be at all dirty. Using it one escapes the inevitable lint from the oft advised wad of cotton, the spots called "tear drops," occasioned by drops of water causing the film beneath to dry more slowly and of a different density, are avoided. After its employment one sets his negatives aside to dry with a clean, bright film, free from that surface moisture which forms these tears or streaks. Of course, if one should wipe from the edge inward when there is present an inclination to frill, the film might perhaps be damaged, but that is a danger easily avoided; in fact, one would naturally avoid such a method almost instinctively. And that is not all; the same wet wash leather comes in most useful in mounting prints, as with it one can so easily remove all surface moisture and any smears of paste that may get on the front of the prints. The prints are made clean and in a condition to dry quickly, and, what is more important, dry evenly.

The Cream Toned Papers

There was a dealer from up state in the office the other day and he was good enough to give us a most interesting thought before he left. He told us he was doing about two-thirds of his finishing, not in sepia but in ordinary black tones on a cream-tinted paper. Of course, snow scenes and marines do not look the best with that treatment, but the first are rather scarce in California and the latter in his particular locality. California is a land of sunshine, and the light yellow tint of the cream papers seems much better suited to the rendition of nearly all landscapes, with the exception of fog and other somewhat cold effects. Portraits and groups certainly look better, and even buildings and street scenes seem to be more kindly treated in that way. The artists tell us that warm colors predominate over the cold ones, and for that reason alone the warmer tint would seem the best of the two. And, on top of it all, our dealer friend let us into a little secret of his own. All prints made on the tinted paper, once the customer was shown comparative prints and realized the advantage enough to order his prints that way, were satisfactory; while frequently those on white paper and having the same treatment were either held out by himself or rejected by the customer because the image was not a good black. With the tinted paper a little departure from a good black image was not apparent, and for that reason the printer was occasioned much less trouble in seeing that the developer was quite fresh and working nicely.

Some Fine Soft-Focus Effects

One of my visitors this week showed me some prints that were exceptionally pleasing in a way that was a little different from the effect produced by using a pinhole or a soft-focus lens. They were contact prints on developing paper, and this is the method of procedure: The negative is placed in the printing frame, on this is placed a sheet of celluloid, and lastly the developing paper is put in position. Before the back is put on and closed, all three are jogged close down into one particular corner of the frame so that they can be returned to the same position. About half the necessary exposure is then given, the back opened, the celluloid removed, the negative and paper again jogged down into the same corner, and the exposure completed. Various effects, or, rather, different degrees of the effect, can be obtained by varying the proportion, one to the other, of the two exposures. A long exposure through the celluloid, followed by a short one with the celluloid removed, will give a very pleasing effect, yet one quite different from that resulting by a short and long exposure respectively. A few experiments will be found very interesting.

Mercury Bleaching Slow

An Alabama correspondent complains that, despite the fact that he uses a saturated solution, many of his negatives seem to require an abnormally long time in which to thoroughly bleach preparatory to blackening for intensification. Looking up some memorandums on the subject, I find that a writer in the *Bulletin de la Societe Francaise de Photographie* advised, a few years ago, that this slow action was occasioned by traces of hyposulphite left in the film through insufficient washing. By adding a small quantity of commercial hydrogen peroxide solution to the bleaching bath, this hyposulphite may be destroyed with considerable advantage to the process.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

High-Speed Stereoscopy

Dr. A. Abrahams writes an interesting article in *The Amateur Photographer,* illustrated by examples that are convincing proof of the advantages to be derived from stereoscopy in the depicting of athletic sports. It is indeed strange that this field has been so long neglected. The writer advocates a pair of short-focus lenses working at f-6.3 and a focal plane shutter. Among other things, he remarks:

"It is well perhaps to point out that the novice to high-speed work will be well advised to serve at least a short apprenticeship to the art without the added complication which stereoscopy entails. Composition in high-speed work is composition of a peculiar kind, involving a certain knowledge of the subject and also a fair degree of the faculty of anticipation.

"It becomes easy enough after some experience to visualize the size which a moving object will have at a certain position, but at first an ignorance of this appreciation leads to failure through ridiculously small figures being obtained, or what is of course even worse, decapitation of runners and jumpers by the top of the plate. Such difficulties are naturally multiplied when it becomes necessary to arrange for two pictures, and when accuracy in holding the camera perfectly horizontal becomes doubly important.

"It is not necessary to deal at any great length with the subjects for the stereoscopic high-speed camera. Everything which will be taken in the ordinary way will be admissible, with the exception of the very few examples when a long-focus lens is essential.

"Every photograph derives a new, sometimes an entirely unexpected advantage. Your runners live, your long jumpers really hang in mid-air, a confusing medley of legs resolves itself into a realistic representation of motion. With the differentiation of planes, details hitherto invisible come into existence, and the blending of two very thin prints is a process of intensification which is no small advantage in the under-exposure which is so frequently the concomitant of fast shutter work.

"For years it has been a favorite hobby of mine to analyze the action of athletes by the camera with a view to depicting certain desirable features to emulate or to discover features which must be eliminated. Now by stereoscopy I find the task greatly lightened. To an educated eye a photograph will always to a certain extent be seen stereoscopically. It is of course an optical illusion, the result of training, but the ordinary person is incapable of such a feat, and a photograph if not meaningless is often too puzzling to be of value. But the correct differentiation of planes in a stereoscope shows the athlete exactly what he was doing when in mid-air or at some other critical point of his effort. Another topic which frequently comes up for discussion is the use of the camera to judge races. Of course, the camera ought to be an ideal judge, it is not subject to human fallibilities, and it could be arranged mechanically to work without human intervention at all. The chief objection to the photograph has been the impossibility of deciding relative positions, through the absence of solidity."

Photographing Very Faint Objects

Gentlemen: The question whether it is possible to photograph things which are too faintly illuminated to be easily seen arises in many ways, but especially in scientific work, where the astronomer desires to photograph very faint stars or nebulæ, or the physicist, spectra which are too faint to be clearly visible in the spectroscope.

In the laboratory of the Eastman Kodak Company we recently made some tests to find out how much exposure was necessary to photograph an image which was so faint that we could only just see it. We took a ten-candle tungsten lamp and put it behind several layers of opal glass. Over this we could put neutral tint film to cut the light down to any required extent, and then, twenty feet away from it, we had a small camera with a six-inch focus telescope objective working at f-5, so that we could photograph the image or alternatively examine it with an eye-piece, with this arrangement the brightness on the retina of the eye being about three times that on the plate.

We then endeavored to find out how much exposure was necessary to get a clear image on a Seed 30 plate under different conditions of visibility.

Making the light so faint that it was just clearly visible to an eye coming out of bright light, we found that seven minutes' exposure was necessary. Then by resting the eye for three minutes in the dark, we lessened the intensity to a point where the spot was still clearly visible, and now found that the exposure required was three hours. Lessening the intensity still more to about one-thirtieth of this, where the image was doubtfully visible after very long resting of the eye in the dark, the exposure required was more than fifty hours.

This experiment would, therefore, seem to show that a yellowish light, such as that of the tungsten lamp, which is just visible to a rested eye, will require about ten hours' exposure on the fastest photographic materials to give a clear image.

C. E. Kenneth Mees.

Restoring Daguerrotypes

Many daguerreotypes are more or less marred through the formation of a metallic-looking veil or film, which greatly obscures the image. This veil may be successfully removed without injury to the picture; and, although the operation is a delicate one, requiring great care, it will, when properly carried out, practically restore the photograph to its original condition. It would not be wise, however, for a novice to practice on a valuable specimen at first; and in no case must anything that is a solvent of finely divided silver or mercury be used, or injury to the image will result; hence potassium cyanide should be carefully avoided. The best agent for the purpose appears to be pure hydrochloric acid, free most especially from any trace of nitric acid. The daguerreotype being carefully leveled, a little of the acid is poured over it, when the tarnish will be quickly removed and the image appear bright and clean. Directly this appearance is evident, the acid must be washed off under a stream of water from the tap, and the plate rinsed well in several changes of pure distilled water. The final operation is the drying of the plate. This requires to be carefully done in order to avoid markings being apparent on the surface when finished. The operation is carried out by holding the plate by means of a pair of pliers over the flame of a bunsen burner or a spirit lamp, heating one corner rather more than the rest, and then, holding the plate in a nearly vertical position with the hottest part at the top, the surface is blown upon in order to insure rapid and even evaporation. Lastly, the daguerreotype should have a glass placed over it, and the whole bound round with strips of paper to exclude the air as much as possible.—E. Senior in *Knowledge*.

Rapid Stripping of Emulsions from Plates

In discussing the various methods advised for stripping emulsions from glass plates, a writer in the *Photo-Revue* points out that the hydrofluoric acid method, if employed frequently, involves some little risk to the health of the worker. Moreover, its employment compels the amateur to purchase utensils which have no other utility.

The procedure which this writer follows appears to him to be preferable by reason of its simplicity, its rapidity of operation, and also the ease with which one can procure anywhere the single product it requires. Even in the most backward place the local chemist could furnish it readily, while this might not be the case with the materials indispensable to other methods.

In a washing tub furnished with grooves or some similar arrangement for holding a number of plates upright, the writer places the plates, two by two, glass against glass, and then fills the bath with:

Formalin (40 per cent)...	200 c. c.
Water	1,800 c. c.

in sufficient quantity to cover the plates with the solution. The solution will serve a number of times, being kept in stoppered bottles in order to avoid evaporation.

The plates are left in this bath for from fifteen to twenty minutes, and then the solution is removed and replaced by water at sixty degrees Centigrade. The films are detached almost immediately, and nothing remains save to remove the glass of the de-spoiled plates and to decant the warm water. The films may then be dried as a first step towards the reclamation of the metal residues, should the quantity be sufficient to justify such a procedure.

The more the water is heated, the more quickly are the plates stripped, but too hot water should not be used, as it may shiver the glass, and thus complicate the operation. At sixty degrees the gelatine is detached almost at once. The addition of carbonate of soda to the warm water facilitates the removal of the gelatine, but it is not indispensable.

If only a small number of plates are to be stripped, the operation may take place in a washhand basin. The plates, set up two by two, glass against glass, are poised by their corners between small wedges of wood, a few millimeters in thickness, the object being to permit the circulation of the liquid.

In the case of certain plates, depending upon the development which has been applied to them, the time of insolubilization in the formol bath may be fifteen minutes, and in the case of others five or ten minutes is more than enough. In all cases the rise of temperature due to the hot water effects the removal in a few moments of the gelatine incompletely contracted by the solution.—*Amateur Photographer.*

(N. B.: I tried this out, but found it no better than plain hot water and a brush, which latter method is not to be despised.—H. D'A. P.)

Hints on Bromide Papers

A very pleasing blue-black tone may be obtained on bromide papers of all makes and grades by observing the following directions. The tone obtained retains its brilliancy and purity for an indefinite period.

First determine the normal exposure of the paper used, in the usual way. Use preferably an actinometer, and note carefully the time. Wet the paper for about thirty seconds in clean cold water. Next put it in the developer given below:

Soda sulphite	1 ounce
Potash bromide	10 grains
Water	10 ounces

Put the soda sulphite first in the water; let it dissolve completely by frequently shaking the bottle. It is a better plan to have the water warm; then let it cool, then add the bromide, shake well and filter through two thicknesses of muslin. Pour into a narrow-mouthed bottle and label it "Sulphite Solution." At the time of use take one ounce of this solution and add to it four grains of dry amidol. The amidol powder dissolves slowly and care should be taken to see that it is completely dissolved before it is applied to the paper. This amount of solution will develop about a dozen quarter-plate prints. For easy manipulation, some water may be added to the solution. The fingers must be scrupulously clean and the dishes free from any trace of hypo.

The image will appear in a short time. Do not overdevelop. After the development is complete, wash in three or four changes of water, and drop into the fixing bath without touching it. It is better to put the latter a couple of yards away from the developing dish. Then proceed to develop the next print in the same way. The proportion of bromide in the solution should be correct, as a slightly larger quantity tends to impart greenish tinge to the picture, while a lesser amount may produce engraver's black without the pleasing blue in it.

When the next print is ready for the fixing bath treat it in the same way, but do not allow more than four prints to accumulate in it, as there is a chance of the lowest one getting yellowish. Take them away in fours, and throw into a bucket full of clean water. Then, after an hour, wash in one or two changes and dry. Slightly harden the prints in a dilute solution of alum if there is any tendency to softness of the film.

The brown tone obtained by the following method is really an excellent one and is a very pleasing novelty. While giving the pure whites of the bromide paper, it gives the delicate tones in graded browns, the effect of which shall at once appeal to the senses.

First ascertain the normal exposure in the usual way. Then give six times the normal exposure to each print. Use a chronometer, if possible, in giving the exposures. Wet the paper thoroughly in clean water for about a minute. Use the following developer:

Edinol	45 grains
Acetone sulphite	200 grains
Sodium carbonate	170 grains
Water	10 ounces

Dissolve in the order given above. The carbonate should be in bright crystals. No bromide is to be used. Do not attempt to develop more than half a dozen prints in each bath. At the time of use take one ounce of the solution for each six quarter-plate prints. In this case also wash the prints in four changes of water before transferring to the fixing bath. The fixing bath is improved by adding about one-thirtieth grain of potassium bichromate.

If it is desired to get a pure brown, which is also a very pleasing tone, give only normal exposure and develop in the following solution:

Edinol	50 grains
Sodium sulphite	500 grains
Water	10 ounces

Increase of exposure and increase of sulphite give greater warmth of tone.—*Journal of the Photographic Society of India.*

The Ferrous Oxalate Developer

The present scarcity of all the modern developing agents forces everyone of necessity to turn to the old developer, ferrous oxalate, the ingredients for which can still be obtained without difficulty. Those unaccustomed to its use need not fear that it is in any way inferior to the other developers; indeed, it is some ways superior, being a delightfully clear developer and giving excellent results with either plates or papers. The reasons why its use has been so generally abandoned are simple. It is more expensive than other developers in normal circumstances, though at present far the cheapest, and also more trouble is involved in keeping up a supply of solution, one solution, the iron one, not keeping well. The formula is simple:

A:	Neutral potassium oxalate	5 ounces
	Hot water	20 ounces
B:	Ferrous sulphate	5 ounces
	Sulphuric acid	30 minims
	Warm water	20 grams

If made with tap water solution A will require filtering, or else it must be allowed to stand until the deposit settles and the upper part becomes clear. On the whole it is worth while using distilled water.

In making B the acid must be added to the water first and then the iron salt is added. The dry iron crystals should be spread out on a sheet of paper and all brown or red crystals should be picked out and thrown away, leaving clear green ones only. Also there should be no dust or crushed crystals used. If the iron-salt is the last of a stock it may require sifting to get rid of the dust. When the iron is dissolved, put a few ordinary iron nails in the bottle and leave them there permanently. They will very materially hinder any depreciation of the solution.

The developer for use is made by mixing one ounce of B with about four ounces of A, pouring B into A, and never vice versa. The exact amount of A does not greatly matter, it being usual to take anything between three and six parts of A to one of B. For plates we should take four parts of A, and for bromide papers five or six parts A. Potassium bromide can be added as necessary from a ten per cent solution, allowing, say, about half a grain of bromide per ounce of developer as an average.

It will be found that the ferrous oxalate developer gives beautifully clear negatives with a quite neutral color. Stain is only produced if a stale developer is used, and even then stain is not inevitable. Indeed, when ferrous oxalate was a popular developer, it was the custom to keep some stale solution for the purpose of dealing with over-exposure. A slight opalescence will sometimes appear, owing to the action of the oxalate in tap water, but this deposit is of little consequence in negatives and will quite disappear upon varnishing, or it can be removed by a bath of oxalic acid. In the case of bromide prints a little care is necessary if sulphide toning is intended. If any iron is left in the paper blue stains will appear. To avoid these stains a weak bath of sulphuric acid of about two per cent strength should be applied after fixing and washing. Two or three rinses in successive fresh baths should be enough, and then after a final wash the print can be dried and put through the further processes.—*British Journal of Photography.*

Removing Ferricyanide Stains

A Texas subscriber asks if he can remove the stain left by a solution of potassium ferricyanide, as used in Farmer's reducer. He has several negatives that have been reduced by this method, and he wishes to remove the yellowness in as simple a way as possible. All he need do is to immerse the plates in a weak solution of ammonium sulphocyanide, about five grains of the salt in each ounce of water, and the stains will disappear.

A Photographic Car

Jay Hubbs, a New Yorker, now in the Southwest, wants to build a practical photographic car, one that will be convenient for all photographic purposes and beautiful as well; that is, serviceable, yet nice to look at architecturally. Perhaps some of our readers can help him out with ideas for a new car. Five dollars is offered for the best well-worked-out plan. Specific directions should be given, with diagrams, etc., so that an ordinary carpenter, provided with the gear and wheels, can build the car from the instructions.

Mr. Hubbs wishes to travel from point to point in the car, making pictures, eating, sleeping, reading, studying, and enjoying life generally. Roads in New Mexico, Arizona and Texas are good, bad and indifferent, and he expects to use all three kinds. He wants a car about 9x25 feet, with the height from floor to roof such as is best adapted to the requirements of the work, while still taking into consideration safety, particularly during winds and storms. It might be possible to so arrange one portion of the car that the roof could be raised for operating, particularly when using the flash, to be lowered when traveling. Seven feet, or even a trifle less, might suffice for the height if that portion over the sitter could be raised about two feet higher when needed.

Back numbers of Camera Craft contain descriptions of two cars, one by Peter Nick and another by Otto Stromberg. Neither seems to be just the thing. The first had a tent along, and a tent requires a lot of work putting up, besides being hot; and Mr. Stromberg's car looks like an old shack. Mr. Nick's car had iron wheels, and these are too heavy and, I believe, less durable than well-made wooden ones like those turned out by firms like Studebaker or the Kentucky Wagon Works. Wheels should be low, with about four-inch tread, so they will ride over instead of sinking into the sand. Low wheels will allow of a structure having less height over all, and therefore less top heavy and liable to be overturned on rough roads or by wind. The car should be as light as is consistent with strength in order that hauling it about be not too hard on the mules. Nine feet has been suggested as a possible width, but wagonmakers say about seven feet is all that would be practical. Competitors will kindly specify the lightest yet strongest wood for the purpose, and the make and style of wagon frame best suited. Supports, hinged or otherwise, to quickly drop down and hold floor steady when car is doing business, seem necessary.

The question of ventilation should consider coolness in summer and warmth in winter. Covering car with canvas on outside and lining, with air space between, with some light-weight material, ought to help some. Some form of fly or awning over car, so arranged as to be let down when not wanted, would help to keep car cool. One could either have one general awning extending down in front of car to form a sort of porch, or individual awnings over windows and doors, of course seeing that they did not obstruct light used in making pictures. Another important feature is the form and arrangement of skylight and side light to insure the best possible lighting of the subjects. Would it be best to have side lights on both sides of car so that either might be used according to way car happened to be located in each town?

What is wanted is an all-round car; the operating room, dark-room, library, office, kitchenette, fixing-up room, reception room, etc., all in one. Possibly some form of folding cabinet could be devised that would permit library, office and retouching desk to be combined into one. Instead of wooden partitions, some arrangement of heavy curtains should suffice, except in the case of the dark-room, with perhaps the kitchenette off in one end or to one side thereof. The idea is a multum in parvo,—great capacity in small space, utilizing every inch of the latter with shelving, benches, sinks, etc., plumbing and wiring all ready to connect up and turn on water and electric light. In cases where no electric current is available, as in a small town, what other artificial light could one use in car for taking pictures, for general lighting, and for printing? We might add that Mr. Hubbs wishes to take pictures by night as well as by day. Therefore, electric or some other light, also one suitable for printing, should be suggested. Some contrivace for printing by daylight from an exposed window should be indicated, and provision should be made for a generous display of pictures in cases, both inside and outside of car.

Some points to be considered are: A handy method, without taking up much room, for drying paper, cards, etc. I saw one photographer here who had medium-sized frames covered with cheese-cloth, these frames fitting into a rack like dresser drawers. There should also be an out-of-the-way place in which to dry plates and film. Another thing, a good frame at side of car or shaft running to roof, for enlarging, using either daylight or electric light, or both. Sometimes electric light is not to be had and then daylight must be employed, even though artificial light is preferable through being more constant.

Some further points to be considered are weight of finished car, economy in construction, strength and lightness, beauty of architecture, form of roof, convenience for photography, lighting and ventilation, backgrounds, reflectors, diffusers of light and how best arranged; low or high wheels for body of car and kind of wood for framework and kind of canvas for covering. Car should have good, strong springs so contents will ride easy. Could not space under floor of car be used for storing things? If so, give sketch showing how to make such space. How far above the ground should storage space be so that it could not come in contact with high parts of road when traveling? Should car be lined with some light-colored material, and if so, what? Would painting of car, either inside or out, interfere with proper lighting? How high should roof be above floor, and should guy ropes be used to anchor car, particularly during winds, when not traveling? How should these guy ropes be arranged? How about adjustable shelves on the outside of car for printing frames and other purposes, so arranged that they can be dropped when traveling?

Each man or woman sending in his or her plan should give the estimated weight of car, built according to such plan. ,Weight is important. If car can be drawn by two strong horses, it will be more desirable than one which requires four horses. Cost of horses, besides feeding them and caring for them, is an important item.

It might be that this meets the eye of some photographer who owns or has seen a good car. A couple of good pictures showing exterior and interior of car would be desirable and would be worth reproducing in CAMERA CRAFT. I have seen several cars, but they were all heavy, clumsy affairs, hot and stuffy inside. An awning might be arranged to come down in front of car and cover a space roomy enough to afford a good place to pose and photograph large groups outside car with suitable backgrounds.

Do you know of some bright young photographer between the ages of eighteen and forty-five who would join Hubbs and help him make a fortune, photographically, in his part of the country? Must be able to do good work as an all-round photographer. Should one wish to get in on this fortune, he should send his portrait along with sketch of car, together with description of himself and his habits. The prize-winning sketch and specifications will be selected by a jury composed of a practical photo car worker, a building contractor, and Mr. Hubbs. Sketches should be sent addressed Jay Hubbs, care CAMERA CRAFT, 413-415 Call Building, San Francisco.

OUR BOOK SHELVES

"Saturday With My Camera"

This is quite a bulky volume that somewhat belies its title by the vast amount of practical knowledge which it contains, practical every-day information such as the busy man can apply in his ordinary, week-end practice of that most charming recreation, photography. The text is supplemented by over fifty reproductions of photographs to which it relates, as well as double that number of diagrams that are used to amplify information given covering methods of work and the like. The author, Stanley C. Johnson, M. A., D. Sc., is an amateur of over twenty years' experience, well known to readers of the English photographic press, and eminently fitted for the work undertaken. As with processes, the formulas quoted have all had the test of personal experience, and the methods advised are all such as the author has himself employed. The book is one that we can recommend most highly to all our readers as perhaps the most complete compendium of amateur practice yet published. There is little need of our saying more than this; in fact, it would hardly be possible to give the reader a fair idea of the scope of the book without quoting in full the eight columns of closely printed index found at the end. The book is published by J. B. Lippincott Company, Washington Square, Philadelphia. Price one dollar and fifty cents net. As it weighs two and one-half pounds packed for shipment, intending purchasers can estimate the postage required by parcels post according to their zone.

"The Great Small Cat, And Others"

Through a typographical error that escaped the eyes of our usually careful proofreader, the name of the author of this charming collection of tales, May E. Southworth, was wrongly spelled "Southwork." While this error in no way invalidates the praise which our weak words were intended to bestow upon this most entertaining volume, and while Mrs. Southworth's name, well known as it is, must not be understood as being more than a minor factor in the popularity which the book is bound to enjoy, we regret most sincerely the mistake. We can hardly do more than again call the attention of our readers to this charming collection of seven most entertaining stories that are replete with much of interest both as to subject matter and treatment, not to mention the seven excellent reproductions of photographic portraits of members of the feline family, used as illustrations. The volume, as we have advised, is a fine example of the bookbinders' art and well worthy of a place in any library or home. Published by Paul Elder & Company, 239 Grant Avenue, San Francisco. Price, one dollar and twenty-five cents.

An Italian Annual

We would again call the attention of those of our readers who are conversant with the Italian language to the new "Annuario 1914 della Fotografia." This is quite a bulky volume of over six hundred pages including a number of actual photographs and color reproductions, well filled with photographic information of a most complete and comprehensive character. The book is of more than usual value and should be in the hands of every Italian reading photographer. It is published by *Il Corriere Fotografico,* Viale Magenta, N. 12, Milano, Italy. The publishers' price is three liras, which, including postage, makes it necessary to send about seventy cents in ordering a copy.

"The Spell of Japan"

In this book, the author, Isabel Anderson, discloses a most charming and compelling style that, combined with her keen observation and appreciation of the picturesque charm and of the country described, places us deeply in her debt. Throughout the pages we can feel her own enthusiasm and pleasure and only wonder at the seeming ease with which she conveys, undiminished it would appear, this sense of charm and interest to her readers. A wealth of photographic reproductions, many of them in colors, together with other illustrations, add to the value of the book. And, that the volume may be of the fullest value to the traveler, a map is appended—one that assists the reader in following the author in her rather travel-inspiring description of the New Japan as well as the Old. Like the other volumes issued by the same house, the book is a very handsome one. Published by The Page Company, Boston, Massachusetts; price two dollars and fifty cents net.

"Photography For The Press"

The above is the title of a standard handbook by F. J. Mortimer, F. R. P. S., that has just had the honor of a fourth edition, as one of "The Amateur Photographer" Library. The first section is devoted to "The Kind of Photographs That Sell," the second to "How to Secure the Photographs," and the next to "How to Sell the Photographs"; these three subjects occupying the major portion of the book. The remainder is given over to information on copyrighting, obtaining permits and kindred matters. While these last are more fitted to the needs of the worker in England, the main portion of the book is equally applicable in this country and is well worth the small cost, one shilling net. Published by Hazel, Watson & Viney, Limited, 52 Long Acre, London, W. C., England. Hirsch & Kaiser of this city can supply copies at fifty cents postpaid.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

James B. Warner, Director Stereoscopic Division, 413-415 Call Building, San Francisco.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

George E. Moulthrope, Director Lantern Slide Division, Bristol, Conn.

Edward B. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

NEW MEMBERS.

3948—Frank Blair Patton, care Pennsylvania Industrial Reformatory, Huntingdon, Pa.

5x7, developing paper, of mountain, river, and floral views of Central Pennsylvania; for anything artistic. Class 1.

3949—Hart K. Smith, 394 Columbia St., Portland, Ore.

3¼x4¼, developing paper, of mountains, river and general scenery, children at play, walking and mountain climbing, club groups; for anything unusual, similar to the above of general interest. Class 1.

3950—C. C. Post, 1905 Ashby Ave., Berkeley, Cal.

Class 2.

3951—Burr F. Anderson, Brooklyn, Mich.

6½x8½ down, of developing papers, of lantern slides; for the same. Class 1.

3952—J. R. Renner, 1334 Charlotte, Kansas City, Mo.

Class 3.

3953—Leo J. Flaker, 573 Capp St., San Francisco, Cal.

3¼x5½ and 4¼x6½, developing papers, of California views; for anything that is interesting. Class 1.

3954—Louis E. Seibil, 2642 E. 29th St., Kansas City, Mo.

Class 3.

3955—Wm. Paul Kriebel, Box 288, Lansdale, Pa.

2¼x3¼, 3¼x4¼, 4x5, various papers, of landscape, speed and flash work; for genre and pictorial landscape. Class 1.

3956—James J. Doll, Caldwell, N. J.

3¼x5½, various papers, of historical subjects, and Southern and Eastern landscapes; for photographs of merit, landscapes, and general interest photographs. Class 1.

3957—W. E. Lewis, R. F. D. No. 2, Gervais, Ore.

5x7 and post cards, various papers, of landscapes, river and Indian views; for old ruins, old forts, and any other historical pictures; 5x7 unmounted prints only. Class 1.

3958—Orrin Dudley, San Anselmo, Cal.

2¼x4½, 3¼x4¼ and 4x5, developing paper, of beach, redwood and general views; for general views of interest. Wish to correspond with serious workers. Class 1.

3959—C. E. Kieler, Peabody, Kans.

4x5, developing paper, of local views; for views of general interest. Post cards only. Class 1.

3960—W. C. Palmer, 1115 4th Ave. So., Fargo, N. D. Class 2.

3961—E. V. Campbell, Campbellstown, Ohio.

2¼x3¼, 5x7 and post card, various papers, of landscapes, still life, genre and general views; for marines, genre, still life and general views. Class 1.

RENEWALS

2074—I. M. Reed, 664 61st St., Oakland, Cal. Class 2.

2090—Albert H. Tolin, 2185 N. Rural St., Indianapolis, Ind. Class 2.

2563X—Nathaniel Mortonson, 806 High Street, Marquette, Mich. Class 2.

2621X—Melvin Bacon, Mecca, Cal.

5x7, 3¼x5½ and smaller, developing papers, of Southern California views, of Los Angeles and ranch life in the artesian district; for curios, comic, still life, speed and miscellaneous views. Class 1.

3467—Rev. Paulus W. Weber, Box 87, Crivitz, Wis.

2¼x3¼ to 8x10, various papers, of landscapes, river views, waterfalls, etc.; prefer to receive only waterfalls, marine views and figure studies except from my former exchanges. Post cards where possible. Class 1.

3619—Edward M. Addington, Dobbins, Cal. Class 2.

CHANGES OF ADDRESS

67—George R. Bosworth, 40 Perry St., Barre, Vt.
(Was Montpelier, Vt.)

1737—John Gysin, Box 769, Trinidad, Colo.
(Was 319 S. Animas St.)

2134X—Joseph R. Poole, 24 Haskell Ave., Everett, Mass.
(Was Chelsea, Mass.)

2229—Clare W. Faulkner, 206 Maple Ave., Watsonville, Cal.
(Was Dawson, Y. T., Canada.)

2867—Miner W. Tuttle, Livingston Hall, Columbia University, New York.
(Was Rochester, N. Y.)

3025—Felix Cremer, General Delivery, Los Angeles, Cal.
(Was Needles, Cal.)

3390—D. M. Wogaman, Lock Box 187, Edgewater, Colo.
(Was Glenwood Springs, Colo.)

3514—Nicola Celano, 310 E. 116th St., New York.
(Was 434 E. 120th St.)

3569—Henry Guyaz, Idaho Falls, Idaho.
(Was Armstead, Mont.)

3751—Harry J. Fromm, 450 Livingston St., Elizabeth, N. J.
(Was 618 Marshall St.)

3838—George C. Barnum, Stanton Studio, Springfield, Ohio.
(Was Burnham Studio, Fairbanks Bldg.)

3953—J. R. Amelung, 3746 Wayne Ave., Kansas City, Mo.
(Was 3426 Virginia.)

3862—Olaf Larson, 705 Freeman St., Valparaiso, Ind.
(Was Hixton, Wis.)

3918—A. F. Miller, 919 W. 8th St., Grand Island, Neb.
(Was Livingston, Mont.)

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

Carl La Moine, of the Bowman Drug Company, Fresno, now wears a mustache. Thinks he looks older.

Mrs. Norma I. Boyd, of Hanford, just returned from her vacation on the Coast, and is now ready for the fall rush.

What the Craft would like to know is why L. C. Buttrick, of the Eastman Kodak Company, carries a little red cushion in his grip. (Pretty soft.)

L. M. Powell, of Hanford, is doing the Kings County work for the Panama-Pacific International Exposition.

The Marcell Studio at Bakersfield still doing big business (conversation).

David R. Fitch arrived in San Diego July twenty-third, and hopes, in about fifteen years from now to be a great help to his father, H. R. Fitch, the kodak man.

J. B. James, of Bakersfield, expects to send the writer some wild pigeons. Will he do it?

William Wolff, of Hirsch & Kaiser, also of Probus fame, is taking a vacation, watching the swells come in at Long Beach.

Fred Lindroth, of Modesto, was in San Francisco recently to attend a Shrine meeting, of which he is a member.

Forsmark & Son, of Turlock, called on the writer while in San Francisco last month.

The Inverness Studio, in Fresno, has started its fall business with a vim. Mr. Bain, the owner, besides being a good photographer, is also quite handy with the brush.

H. A. Parker has just returned to Pasadena after a very successful season at Lake Tahoe, where he also has a studio.

Guy Hess, Jr., of Eureka, is doing nicely —born in August.

A Fine Home Portrait Outfit

The photographer realizes that the ordinary camera used on a view tripod is not well suited to home portraiture, and even the most simple and portable of the studio outfits are not just the thing to be carried about in reaching one's engagements. To supply the want created by the ever increasing interest in home portraiture, the Gundlach-Manhattan Optical Company has been offering an outfit made up in three sizes, 5x7, 6½x8½ and 8x10, each varying in price according to which of five excellent lenses are selected, and a most ideal folding stand. This last, the Korona Folding Studio Stand, was originally invented by an expert home photographer and since improved upon by the makers. The three legs open up simultaneously, will not close until released, and are as safe and stable on a tile floor as on a carpet. The center post gives a wide variation in height, while a simple and efficiently arranged tilting top gives all necessary inclination; and yet, with these advantages, it weighs but three and one-half to five and one-half pounds. It is made of cherry, finished in walnut, the same as the camera, but with metal parts of aluminum. With the camera goes a neat carrying case and one holder, these last being the well-known Korona holders of the spring-bar type with flexible valves, light in weight and a pleasure to use.

Any of our readers who are interested in an outfit especially suited to home photography or for an inexpensive studio should write for circulars covering these outfits. With so suitable an equipment, selling for from thirty-eight dollars, for the 5x7 size, upward, for the complete outfit, no one should exhaust either their own or their customers' patience and strength with a makeshift. Being somewhat in the nature of a specialized equipment and the three sizes and five lenses making quite an assortment, not every dealer stocks them. Fully illustrated circulars can be obtained at the cost of only a postal card, and the dealer will then supply on order. Furthermore, one need have no fear concerning the quality of anything put out by these manufacturers, one of the oldest firms in the business. Write for special circular on home portrait outfits to Gundlach-Manhattan Optical Company, Rochester, New York.

One More Month, Get Busy

Ansco Company's Five-thousand-dollar Loveliest Woman Contest closes December first. This means that you have just one more full month in which to gather together the loveliest woman prospects in your town and vicinity, photograph them and enter their portraits in the big contest. Most of these prospects have returned from their vacations by this time, so that now you are in an excellent position to reach them through the columns of your local newspapers.

By all means you should make use of the newspaper electro service that Ansco Company has had prepared for professional photographers. If you haven't yet picked out the electros that most appeal to you, order them now. Full-size reproductions of these electros, you remember, have been shown in consecutive issues of *Portrait*. If you will just refer to these back numbers, you will have no difficulty in making your selection.

Let's take this last month and cram into it all the concentrated enthusiasm of the months that have preceded it. Let's determine that November and the remaining weeks of October shall be the most prolific of any time and efforts that we shall have expended on the contest. Surely you know of several women in your home town, or within a reasonable radius, who would stand an excellent chance of winning fame in this big competition. Why not make a special effort to induce them to let you photograph them and enter their portraits.

If they are just a little bit shy themselves, you can prevail upon them through the medium of their enthusiastic friends. There are any number of ways in which you can arouse their interest. A personally dictated letter, setting forth the merits of the contest to these women should be effective. Point out the fact that the fifty winning photographs will be enlarged to life size and exhibited at the Panama-Pacific Exposition in 1915 to the gaze of the whole world. Also mention the fact that leading magazines have requested the privilege of reproducing the photographs of the winning contestants, thereby adding to the international fame and glory already achieved. By advertising your studio as contest headquarters, both in newspapers and by circular letters, folders and other supplemental means of publicity, you will not only attract prospective contestants to your place of business, but will also add many new names to your list of customers.

Ansco Company is willing and anxious to assist you in every possible way to make this contest a source of everlasting benefit.

An Unfounded Rumor

In a letter just to hand from Carl Ernst & Company, they advise: "It has come to our notice that there have been rumors to the effect that, on account of the European war, our factory has been closed and that the American branch is about to be closed. These rumors are altogether unfounded. While it is true that we have decided not to accept orders at the present moment, yet we do not intend closing our business. As soon as conditions become settled, we shall again be ready to take care of the needs of our customers."

This should be good news to those of our readers who use the high-grade mountings turned out by Carl Ernst & Company, the Berlin firm with its American branch at 154 East Twenty-third Street, New York.

The New Atlas Roll Film

We have just had the pleasure of trying out a roll of the new Atlas Roll Film, and can only express our entire satisfaction therewith. They are non-curling, non-halation, fully up to the older standard makes as to speed, and remarkably gratifying in their orthochromatic qualities, particularly when under-exposure, which we always try to avoid, is not in evidence. This new film is being marketed by Burke & James, Incorporated, 4046 East Ontario Street, Chicago, Illinois, and forms a most important addition to their line, an addition that will allow dealers and others to purchase their film as well as their cameras and other supplies from this progressive house. We would advise a trial of this new product.

A Full Line

The Taylor-Hobson Company, 1133 Broadway, New York, announces that fortunately they have a full stock of Cooke anastigmat lenses in most sizes, and shipments arrive steadily from their English factory. There is, moreover, every prospect of a steady supply of raw glass, so that they are in the fortunate position of remaining almost independent of the present disturbance in Europe so far as the supply of Cook Anastigmats is concerned.

The Victor Flash Cabinet

At this season of the year as the days become shorter and the light more uncertain, the progressive photographer will do well to investigate the merits of a practical method of making his exposures that is independent of light or other conditions. A letter before us from one of our correspondents seems to indicate that at least a portion of the photographic fraternities labor under the mistaken idea that making exposures by means of the flash is an expedient resorted to only by the cheaper class of portrait photographers. This certainly is a most erroneous idea, for the reason that some form of flashlight apparatus is used by a large number of the best photographers throughout the country. For example, right here in San Francisco one of the most successful of our high-priced, artistic photographers has entirely discontinued the use of his regular skylight for almost a year, and found that so doing has resulted in a decided improvement in his work and a diminution of the cost and trouble necessary. The Victor Studio Flash Cabinet, advertised on another page, has proved itself a decided success during the several years in which it has been upon the market, and we would advise our readers to send for the descriptive booklet concerning it, addressing James H. Smith & Sons Company, 3541 Cottage Grove Avenue, Chicago.

Annual Photographic Exhibit

The anual exhibit of photographs taken by members of the Sierra Club, being held in Los Angeles October first to fifth, inclusive, in care of P. S. Bernays, 311 South Hill Street, will be exhibited in San Diego, October tenth and eleventh, in care of Charles P. Douglass, and in Santa Barbara, October fourteenth and fifteenth, in care of Dr. G. A. White, Chamber of Commerce rooms.

"Something To Do"

Here at last is a real magazine for children, one for bright boys and girls, and every wide-awake boy and girl who sees it will want to cause every month it contains twenty-five subscribe. It is called *Something-to-Do* be- departments, all full of things that children can do. The things described can be done in the home or school. It has a board of twenty-five editors, famous because they know how to help boys and girls do things.

Something-to-Do is the latest word in the educational progress of our time and is endorsed by the highest authorities. It brings into the home the business-like air of "learning things of value" as in school; and it brings into the school the common-sense view that "the things done must count for something" as in the home. Consequently, it helps to solve the mothers' and teachers' problem and furnishes many, many helpful lessons as well as hours and hours of happiness in every home and school where it is read.

The price of a year's subscription is only one dollar; Canadian, one dollar and twenty-five cents; foreign, one dollar and fifty cents. No home or school should be without it. Your subscription should begin at once. No other dollar will ever bring as much real pleasure or profit to your children as the one you invest in *Something-to-Do*. Do not put this off one day, but send your subscription at once to Something-to-Do, 120 Boylston Street, Boston, Massachusetts.

Tenth Annual Wanamaker Exhibition

An invitation has been extended to such of our readers as are doing pictorial work to send their pictures to the Tenth Annual Photographic Exhibition, March first to fifteenth, at the Wanamaker Store, Philadelphia.

All reasonable care to prevent loss or damage to pictures will be given, but no responsibility for loss or damage will be assured. No picture shall be removed from the walls until the close of the exhibition. Exhibitors desiring to sell their pictures should mark the price on the back. Ten per cent will be charged on any pictures sold. For further information inquire of the Photographic Exhibition Bureau, John Wanamaker, Philadelphia.

As Busy As Bees

A recent letter from the Ilex people advises us that orders are coming in suprisingly fast, particularly for this time of the year; and, while they are filling all demands most promptly, they are running full time and are kept as busy as at any period of the year. The Ilex Anastigmat working at f-6.3, in an Ilex Universal shutter, forms an ideal combination that is in good demand for small and compact cameras where a high-speed automatic shutter and an excellent anastigmat lens is desired at a moderate price. Our readers should investigate the merits of this combination by writing for catalogue to Ilex Optical Company, 563 Ilex Circle, Rochester, New York.

Guns vs. Armor Plate

Lens makers and shutter mechanicians having exhausted for the present their possibilities as far as eliminating the element of the fractional time factor in the photographic process is concerned, recourse is now had to plate makers for a further curtailment of the time element. Allison & Hadaway, American agents for Marion & Company's Record plates, assure us that the plate makers are now in the ascendency. The new Record plate, working at a speed of 500 H. & D., possessing fineness of grain and good keeping qualities, enabled a reduction of the exposure by something like fifty per cent over ordinary plates and ten per cent over the fastest hitherto available. This means that professional photographers, press photographers, commercial photographers, astronomers and all others, who, under disadvantageous light conditions, need plates to produce accurate results under the shortest shutter movement and under the most unfavorable light conditions, are bound to turn to this new and extraordinary product of the English manufacturers. The most remarkable results have been obtained by those accustomed to the use of the ordinary fast plates when the Record plate has been used in comparison. It is advised that those interested in high-speed photography and photography under unusual light condition, correspond with Messrs. Allison & Hadaway, 235 Fifth Avenue, New York. Knowledge thus obtained may lead to the saving of important accounts during the fall and winter months.

"Teddy" Headed This Way

Teddy Muller, well known to the trade as a technical paper, plate and camera expert, whose pictures of the United States battleships are known the country over, is now with Allison & Hadaway, of New York. Mr. Muller is now on the way to the Pacific Coast and for a time will make his headquarters at San Francisco.

For Home Portraiture

Photographers all over the country are showing great interest in the new Korona Folding Home Portrait Stand, placed in the market by the Gundlach-Manhattan Optical Company, 766 South Clinton Avenue, Rochester, New York. This stand is claimed to be the only successful combination of the advantages of the studio stand with the lightness and portability of a field tripod. A few of its many advantages are: While being absolutely rigid and immune to sliding when once set up, it may be folded compactly and is so light as to be easily carried under the arm. The legs can never slip on any floor, no matter how smooth. They open up simultaneously and are bound rigidly together, while all adjustments in the height and inclination of the camera are made by the center post and tilting head, this latter being an exclusive feature. The stand is quickly set up, there are no parts to put together and no legs to draw out, etc.—this is all done automatically. It takes just three seconds from the time the stand is all folded to when it is ready to receive the camera. Full information in regard to this unique stand and also the Korona and Pixie cameras and the famous Turner-Reich lens and booklet, "Telephotography with a Pancratic Telephoto Lens," will be sent free on request. Better send a postal card today before you forget it.

U. C. Scientist In Charge

The California Fish and Game Commission, believing that education as to the necessity and value of game protection and preservation is a more efficient means of conserving the State's game than police patrol, has inaugurated a bureau of research and publicity. Dr. Harold C. Bryant of the University of California has been placed in charge of the new work. The function of this bureau will be to find ways and means of protecting and preserving foreign and domestic game birds within the State and to dispense information relative to game by means of correspondence, public illustrated lectures and by the issuance of bulletins dealing with the status of game. A study will also be made of the habitats, habits and breeding seasons of the different game birds and mammals of the State so that a basis for sane game laws may be afforded.

Laws and police measures, though necessary, are not so effective for the preservation of game as an enlightened public sentiment. This new move of the Commission will hasten the day when a large force of wardens, making hundreds of arrests yearly, will be unnecessary.

Experimenting With the Nitrogen Lamp

Robert D. Gray, the well-known manufacturer of the Parallax Enlarging Lamps, advises that he has made a large number of trials of the new Nitrogen lamps in connection with the Parallax and found it excellent for photographic use, having a brilliancy that is easily mistaken for that of the arc light. The three hundred watt bulb, three hundred and seventy candlepower, is the same size as the one hundred and fifty watt regular Mazda bulb and work well in the series C Parallax reflectors. For the seven hundred and fifty and thousand watt bulbs he has made a new reflector with one hundred and fifty mirrors in five rows, permitting of the use of the slower papers for enlarging. This will be known as Parallax No. 15E, and be equipped with a centering appliance similar to that of a stereopticon or searchlight. Those wishing a practical, economical light for enlarging should write for information to Robert D. Gray, manufacturing optician, Ridgewood, New Jersey.

A Useful Accessory

A most compact and useful photographic accessory has recently been placed on the market and is meeting with enthusiastic approval. It is the Kodak Magnesium Ribbon Holder, manufactured by the Eastman Kodak Company, Rochester, New York. The magnesium ribbon is wound on a roll inside the holder and is pushed forward by the thumb until a piece of the desired length projects from the holder. This is ignited by holding the projecting ribbon in a flame, the light produced being an intense white, especially suited for printing Velox or making lantern slides. The ribbon is so contained in the holder that only that part which projects will burn, so the amount of light for each exposure may be accurately measured by measuring the projecting ribbon. The device will be a boon to campers, tourists, and others who find themselves in places lacking a suitable light for quick printing. The bright light of the magnesium is not only preferable to an oil light, but is superior to either gas or electricity for accuracy and speed. We feel sure that a Kodak Magnesium Ribbon Holder will be a part of the equipment of every progressive amateur. The Kodak Company also supply a small alcohol lamp for use in burning the magnesium ribbon. Both may be had from your dealer at a nominal cost.

Illinois College of Photography Notes

Edgar A. Brown has returned to finish his course in photography after an absence of several months.

The Motion Picture Class took a number of scenes at the local Old Settlers' Day celebration last month.

Charles F. Ladd of 1899 sends us an announcement of his marriage last month to Miss Harriett Mae Johnson, of Millville, New Jersey.

C. C. McCorkill, formerly instructor in the printing department, writes that he expects to enlist with the Canadian forces to join the war in Europe.

Kigaro Kurosawa, one of our Japanese students, has just finished the photographic course and will locate on the Pacific Coast. He expects, on his arrival home, to send his nephew to the college for the course in photography.

Statement of the ownership, management, circulation, etc., of CAMERA CRAFT, published monthly at San Francisco, California, required by the Act of August twenty-fourth, 1912.

Editor, Fayette J. Clute, San Francisco, California. Managing Editor, Fayette J. Clute, San Francisco, California. Business Manager, Fayette J. Clute, San Francisco, California. Publisher, Fayette J. Clute, San Francisco, California. Owner, Fayette J. Clute, San Francisco, California. Known bondholders, mortgages and other security holders, holding one per cent or more of total amount of bonds, mortgages, or other securities, none.

(Signed) FAYETTE J. CLUTE.

Sworn to and subscribed before me this twenty-fifth day of September, 1914.

Sid J. Palmer, Notary Public, in and for the City and County of San Francisco, State of California. My commission expires December thirty-first, 1914.

CAMERA WANTS

Advertisements of the above nature shown below will be inserted under this heading at the rate of fifty cents each insertion, for twenty-five words or less; each additional word, two cents extra, cash with order. Those of positions wanted inserted free. No business advertisements accepted.

RETOUCHING WANTED At home; prompt attention given orders received from city or country. Moderate prices; seven years' retouching for Arnold Genthe. Mrs. Anna Josselyn, phone Franklin 7799, 1400 Washington St., San Francisco, Cal.

10x12 GUNDLACH Rectigraph lens, newly fitted with Iris diaphragm; list $60.00; will sell for $25.00. N. C. H., care "Camera Craft," San Francisco, Cal.

FOR SALE Old established, well-equipped studio, doing a first-class business, having best location in university city and fine farming community surrounding. Must sell at once; am leaving State. Price, $1,100.00 cash; investigation solicited. H. A. Ludwig, Champaign, Ill.

STUDIO For sale; not elaborate, but well equipped; can be made a good money-maker during Fair, as is on busiest block on Market St. Price not inflated, as owner really wishes to sell. Address Studio, care "Camera Craft," San Francisco, Cal.

GRAPHIC 4x5, plate or film pack, revolving back, 17-inch focal capacity. Full description in Graflex catalogue. With 11 plate holders, film pack adapter, new Graflex focal plane shutter, all in sole leather case. Will sell without lens or with No. 2 Dagor in Compound. Entire outfit in perfect condition; used only three months. Price low. Also Paget color process taking screen plates 3¼x4 and 4x5, for sale; new. F. I. Jones, 108 North 6th, Portland, Ore.

FOR SALE Seneca camera No. 9, 3¼x5½, Velostigmat lens, series I, f-6.3, Optimo shutter, 6 plate holders, adapter and case, tripod, portrait attachment, all as good as new; price, $45.00. Century view camera, 8x10, Wollensak R. R. lens and regular shutter, 2 plate holders, all in good working condition; price, $25.00. Century studio stand No. 6, new; price, $4.00. Address Lafler's Studio, Prineville, Ore.

HIGHEST BIDDER Takes an unused set of ten volumes of "Complete Self-Instructing Library of Practical Photography"; publisher's price, $50.00; bids to be opened at 9 p. m., November 14, 1914; envelopes must be marked "Bid," or will be returned. Marsh & Co., 712 Market Street, San Francisco, Cal.

3A PREMO Filmpack Special with case, holders, filters, portrait lens, etc.; absolutely like new; cost $80, will sacrifice for $55 cash; write for full description. Rev. Paulus Weber, Box 87, Crivitz, Wis.

FOR EXCHANGE Studio in live California town, central location, good business, well equipped; will exchange for one of equal value, $750, complete or location only; personal reasons for wishing to exchange; California or Oregon. Address C. O., care "Camera Craft," San Francisco, Cal.

FOR SALE Eastman Kodak, post card size, Volute shutter, Zeiss-Tessar lens, plate adapter and 2 double plate holders, in good order; $35 takes it. Address H. J. King, Parma, Mich.

POSITION WANTED A successful salesman, well posted in photo supplies, lenses, apparatus, etc., desires a position either traveling or locally; has some knowledge of photography, papers, plates and films; can give bond and satisfactory references. Address P. S., care "Camera Craft," San Francisco, Cal.

FOR SALE The only studio, ground floor, Goldfield, Nev.; established business and reputation for seven years; business per year $2,500; completely equipped up to 8x10; cash price $500. Address Weyle Art Shop, Goldfield, Nev.

FOR SALE Studio located in most prosperous county in California; not a rundown business, but fine trade year round; will bear most careful investigation; $650 cash or terms. Address California, care "Camera Craft," San Francisco, Cal.

FOR SALE Only studio in beautiful Southern California city of about 2,000, among dairy ranches and fruit groves of all kinds; 2,500 more people to draw from within 3 miles; mountain resorts and mineral springs near; ideal climate the year round; best class of trade, fine prices, $8 and up; modern equipment, city water, gas and electricity; best of reasons for selling; $500 cash will handle it. Address Box 433, San Jacinto, Cal.

FOR SALE Studio in rich dairy and fruit locality; good business from 12 small towns; railroad just completed; cheap rent, fitted to 8x10, good lenses; $500 cash; am going East. Address Box 35, care "Camera Craft," San Francisco, Cal.

FOR SALE Ground floor studio in Santa Clara County, California, 50 miles from San Francisco; only skylight in town of 6,000 population; good all-round business for a live man. For particulars address O. K., care "Camera Craft," San Francisco, Cal.

FOR SALE Cooke lens series IV, f-5.6, 8-inch focus, Iris mount, perfect condition, $35. George G. McLean, Carpenteria, Cal.

WANT TO HUNT With camera, so will exchange my Stevens repeating shotgun, trap grade, 12 gauge, two sets of barrels, cost $65, for focal plane camera; will give or take difference. Ben Fitzpatrick, 712 E. 47th St., Kansas City, Mo.

FOR SALE 5x7 Seneca Competitor three-focus convertible lens, carrying case, three holders, cost $33, for $12. Goerz-Dagor in No. 3 Optimo, new cost $80, for $43. C. C. Bishoff, Columbus, Kansas.

POSITION WANTED By a young lady as general assistant; have had 2 years' experience and wish to learn more of photography. State salary you can pay in first letter. Open for position October 20th. Prefer Oregon, Washington or Idaho. P. O. Box 126, Weiser, Idaho.

FOR SALE Best studio in town of 5,000, including amateur goods. For sale reasonable and easy terms to right party. The Good Studio, 113½ W. Commerce St., Altus, Okla.

FOR SALE Complete Rochester 8x10, single draw view outfit, with 4 double holders, shutter and Darlot portrait lens. Best offer takes it. Will sell lens separate. C. F. Fisher, Tabor, Iowa.

FOR SALE Modernly equipped studio on main street; located in one of the best towns in Willamette Valley, Ore., population 2,000; big territory to draw from; no competition; equipped for 8x10 portrait and 6½x8¼ view; also 3A Graflex; electric light; city water; paved streets, and good north light. Bona fide reasons for selling. A snap; must sell. Investigation solicited. Address D. S., care "Camera Craft," San Francisco, Cal.

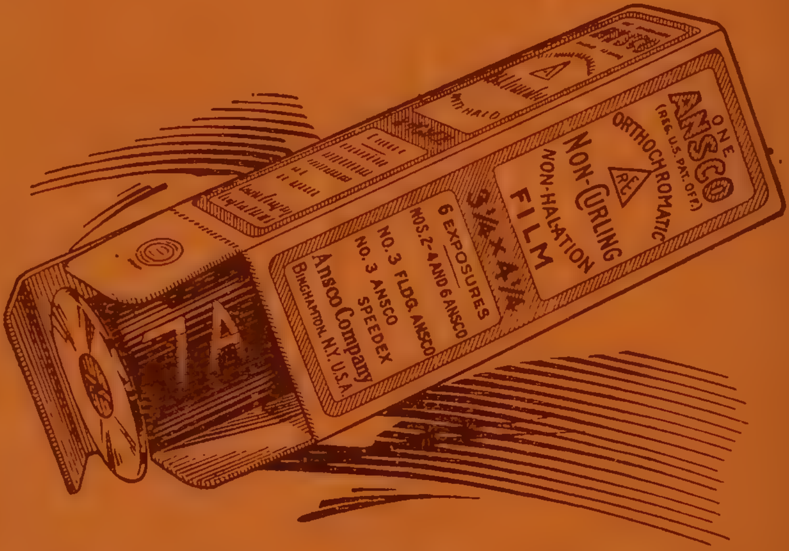
l. XXI No. 11 NOVEMBER, 1914 Price, 10 Ce

CAMERA CRAFT

SAN FRANCISCO
CALIFORNIA

Ansco Film

The article and invention for which many millions were paid as a result of the decision handed down by Judge Hazel, in the United States District Court of Buffalo, which decision was affirmed by the United States Circuit Court of Appeals.



The Ansco non-curling color value film costs no more than ordinary film.

Be sure to load your camera with the original, genuine and perfect film.

Ansco Company
Binghamton, N. Y.

"WHAT CANARY BIRD?"
By A. R. ALLEN
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CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY
FAYETTE J. CLUTE, Editor
CALL BUILDING SAN FRANCISCO CALIFORNIA

VOL. XXI NOVEMBER, 1914 No. 11

Retouching Not Difficult

By Corydon G. Snyder

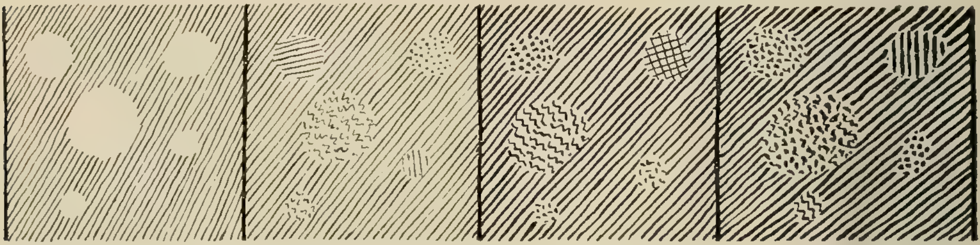
With Illustrations by the Author

Editor's Note: *It is with no small amount of satisfaction that we offer the following article to our readers, an article by one eminently fitted to advise and instruct along this particular line. This will be followed by others giving valuable information as to the production of Photo Etchings and the popular Photo Sketch Portraits, lines in which the author is both a pioneer and a proficient worker. Mr. Snyder reports most gratifying interest in the advertisement that has been running in our pages and we trust that an ever increasing number of our readers will avail themselves of the opportunity of getting in touch with one who can be of such great help to them. The entire contents of each issue of our magazine is copyrighted and this article must not be reproduced without the author's consent as he intends to incorporate it and following ones in a book to be published later.*

Many professional and most amateur photographers seem to think that to retouch a negative demands a great deal of skill. With that idea they either employ a professional retoucher who will do such work for them, or they go to no little trouble in trying to minimize the usual defects, in printing, by the use of rough surface paper or other device. Either one of these, or else they discard entirely the negative that a very little retouching would have saved. To make matters worse, it is usually the case that the negative that most needs retouching is the best in the matter of pose or expression. Any one who is at all handy with a pencil can, by very little practice, quickly acquire all the skill necessary, and this little practice, based on some general directions—no personal instructions—is all that is required. I have frequently shown other photographers how to retouch a negative which I had taken of them, using but a few minutes therein, in order to avoid the work myself, and in no case did they have any difficulty in doing it. Some may need a little more practice in the application of the lead than others, but any one who can write easily with a pencil should experience no difficulty in acquiring the required small amount of skill necessary to do ordinary retouching.

The main thing necessary is good judgment,—a good idea as to what should be taken out and what put in. By putting in, I mean the adding of highlights. Very little of this last is necessary with the ordinary portrait negative, so that it is generally only a question of what to take out; and, as one is working on a negative, he need only remember that to take a blemish out it is usually necessary to put something in, some pencil marks, for example, on the negative.

First make a print from your negative, preferably on a paper that will give all the detail clearly, a glossy surface developing paper or one of the printing-out papers such as Solio. If you have in mind a certain grade or surface of paper on which you intend to print the finished negative, it will be well to make a print on that paper also. The print made, study it carefully to see just what has to be done to improve it by retouching. Unless one has some special effect in mind, it is always best to avoid doing any more retouching than is absolutely necessary. One must, of course, take out freckles, and the softening of harsh lines may be considered a necessity in most cases. The taking out of all lines and remodeling, as is sometimes done on the neck, is rarely justified in the production of a portrait.

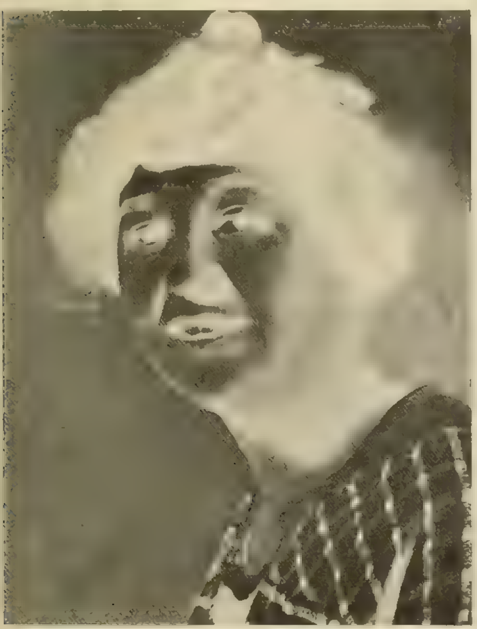


A WIDE VARIETY OF STROKES SERVE THE RETOUCHER—The above squares are of different density, but with the several strokes made to correspond the blemishes are filled to match the surrounding tone, as can be seen by holding a short distance from the eye.

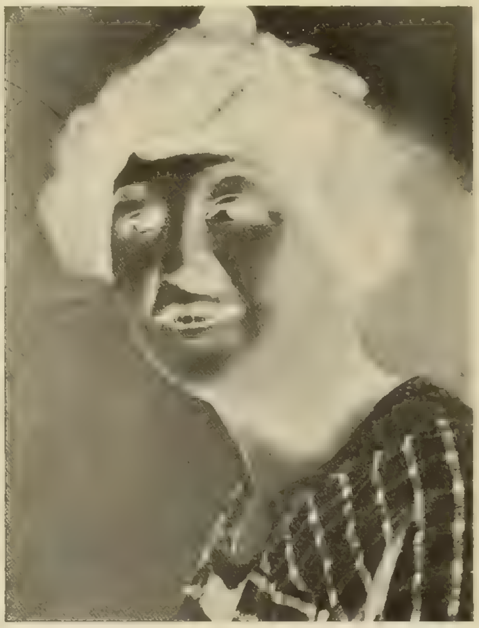
Almost any of the remodeling varnishes obtainable at the supply houses are all right. Take a little on the end of the finger and apply to the head portion of the negative, taking care to avoid rubbing too hard; then, with the thumb portion of the palm, rub lightly until dry, which will be almost instantly. It is best not to begin work with the pencil for a few minutes to allow the surface to harden. If the entire negative has been covered, somewhat longer will be required. One should have several pencils of different grades; BB, HB, HH, and HHHH give a good variety, or some in between may be selected. One soon learns the grades his negatives and his style of touch require, after which two will generally suffice for ordinary work. As a rule, the denser the negative, the softer the pencil necessary, and one should use the harder grades only when compelled to do so.

In order that the lead may be deposited exactly where wanted, the pencils must be sharpened to a needle point and kept so, not allowed to become thick and rounded. As retouching pencils are of good quality and only a fairly light touch is required, there is little or no danger of the lead breaking, and it is therefore general practice to cut away the wood so as to expose an inch or more of the bare lead at all times. This is roughly pointed with the knife and then brought to the desired fine point by rubbing on a strip of fine sand or emery paper. An occasional rub on the sandpaper maintains the desired point, and some workers use a folded strip of the paper which allows the point to be rotated between the two surfaces as the strip is held between the thumb and forefinger of the left hand.

Comparing the negative with the blemishes on the print will suggest the required work. If the negative is thin where the retouching seems needed, as is generally the case on the shadow side of the face, select one of the harder grades of pencils and use a stroke that will deposit all the lead necessary without again going over the same parts, as the lead does not take kindly at the second application. Sometimes it is necessary to build up by again going over the same portions; but, as a rule, where a heavy deposit is necessary, it is best to varnish the back of the negative, as I will explain later, and do part of such work on that side. Of course, a regular retouching stand is a convenience if much work is being done, but the amateur can usually get along quite nicely with a piece of ground glass behind the negative and both held up to the window. If this is unsatisfactory, any crude construction on the lines of those shown in the catalogues will usually suffice. Examine one of the regular retouching stands offered for sale in the supply houses or catalogues and one will find that a cardboard arrangement can easily be made along similar lines.



NEGATIVE NOT RETOUCHED

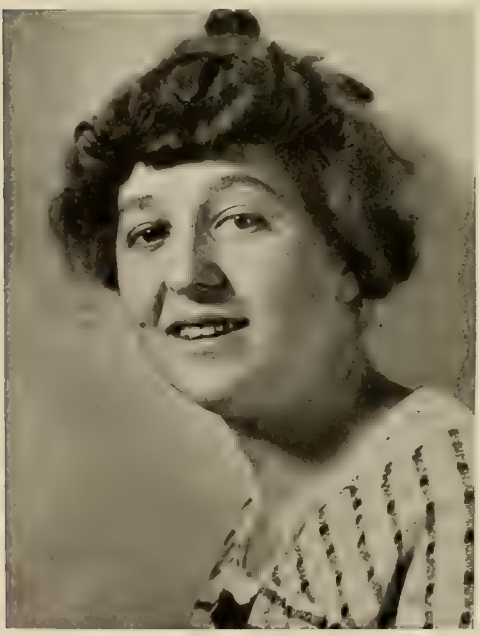


NEGATIVE RETOUCHED

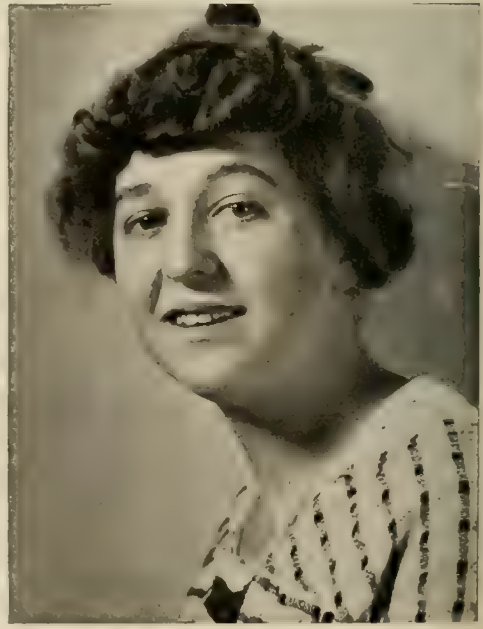
One will find, perhaps, that taking a proof from time to time will be quite a help with the first few negatives attempted; in fact, it might be well to practice a little on a couple of waste negatives, although there need be no fear of spoiling a good one, as any unsatisfactory work of the "prentice hands" can be quickly removed, if necessary, with alcohol and a tuft of cotton. The negative will require re-varnishing before again proceeding with the work.

Most professional retouchers have a certain touch or method of handling short lines in putting on the lead, but nothing special is necessary. The idea is simply to fill up the blemish so that it appears of the same density as the surrounding film. The illustration herewith shows that almost any kind of pencil stroke fills up a space; as, while the lines are different in character or run in different directions, the holes cannot be distinguished from the surrounding tint when held at a short distance from the eye, being of nearly the same tone or value.

The two heads shown below indicate about how the work should be done and the improvement achieved thereby. The other is a suggestion for a photo-sketch effect from the same negative. Sometimes it will be found that a picture can be greatly improved by the addition or strengthening of highlights. It requires skill to do this on the film or face side of the negative; and, unless a very clear-cut effect is wanted, it is best to do the work on the glass side. For this I would recommend the use of ground-glass substitute. It can be flowed on quite easily by first placing the negative in an old printing frame and then pouring the substitute on its center, from where it is worked around to the corners by tipping the frame. This should be done quickly and the surplus drained off into the bottle. The plate should also be removed from the frame as quickly as possible to avoid danger of the varnish working around onto the film side. Finally, set on edge to dry where there is no danger from dust. This



PRINT FROM UNRETOUCHED NEGATIVE



PRINT FROM RETOUCHED NEGATIVE

gives a good surface on which to work; and, being on the glass side, such work is softened and blended in the printing in a way that is most gratifying.

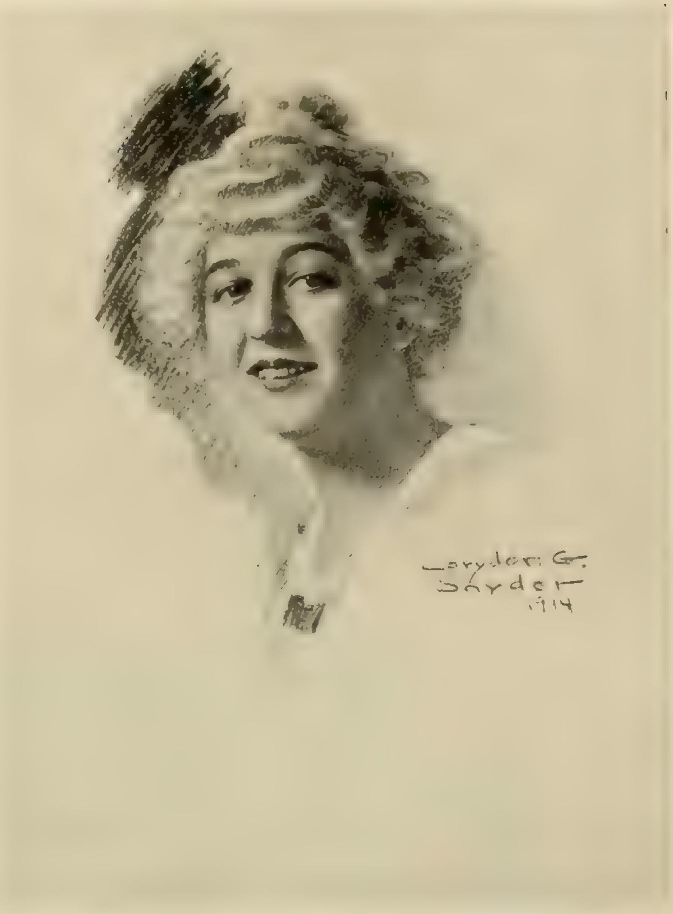


PHOTO SKETCH PRINT FROM SAME NEGATIVE—The subject being a blonde, the hair in this instance has been lightened although usually untouched.

The reader must not think that the brevity of the above instructions means that they are incomplete. Were all sitters of the same general type and all lightings made exactly alike, it would be quite feasible to give instructions in the form of a more or less elaborate series of definite rules of practice. But, as practically every portrait negative presents its own problems, good judgment and the ability to apply lead where wanted become the prime requisites. The former is hardly a matter of rules, while the latter is one of practice rather than one of precept.

Seeing Pictorially

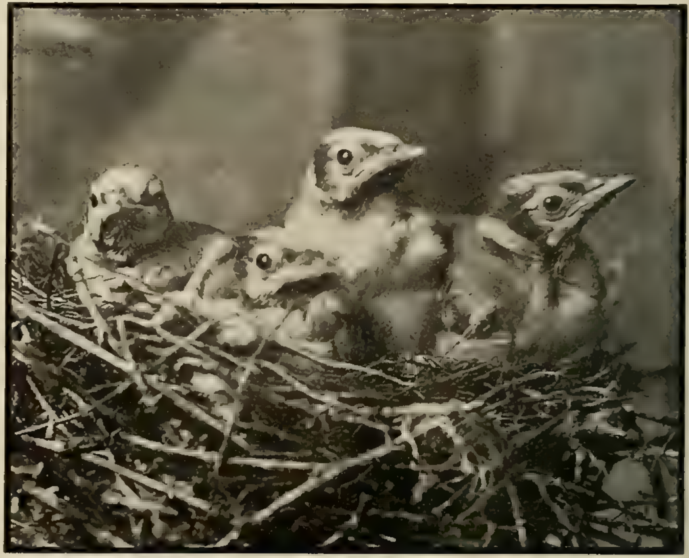
Analyzing Nature for one special purpose is an art, but it is one that can be acquired. In the ordinary course of life the eye is never used in an artistic way. There are plenty of people who love natural beauty and are keenly observant, but they do not see as the artist does, and regard Nature in the light of a huge panorama from which he has permission and a pair of scissors to cut some pieces. The beginner, unless he is very self-satisfied, will soon discover the need of a new faculty, a way of looking at things that he never dreamed of before. This method of viewing Nature is bigger and broader than the common use of the eyes; the ordinary person sees detail before effect, but the artist sees effect and arrangement first; he overlooks the parts and thinks only of the whole.—HORACE MUMMERY.

A Method of Bird Portraiture

By J. W. Elarton

With Illustrations by the Author

While most of the pictures of birds and animals are made in the open, I have proved to my own satisfaction that good work of this class can be done by the photographer who does not care to equip himself with a suitable camera and leave his studio to go afield for subjects. You ask, "How do you get the bird?" Some are from nests in the trees by my residence; these I watch until the young birds get as fully grown as possible before leaving, when they are taken to the studio for their portraits. Others I have brought me by friendly youngsters who are interested in my work and occasionally find opportunity of supplying me with subjects. Owing to the enterprise of our citizens, the homes in our city of Aurora, Nebraska, are surrounded by, and the streets lined with, thousands of fine trees, in which birds of many kinds find a safe and congenial place in which to hatch and rear their young.

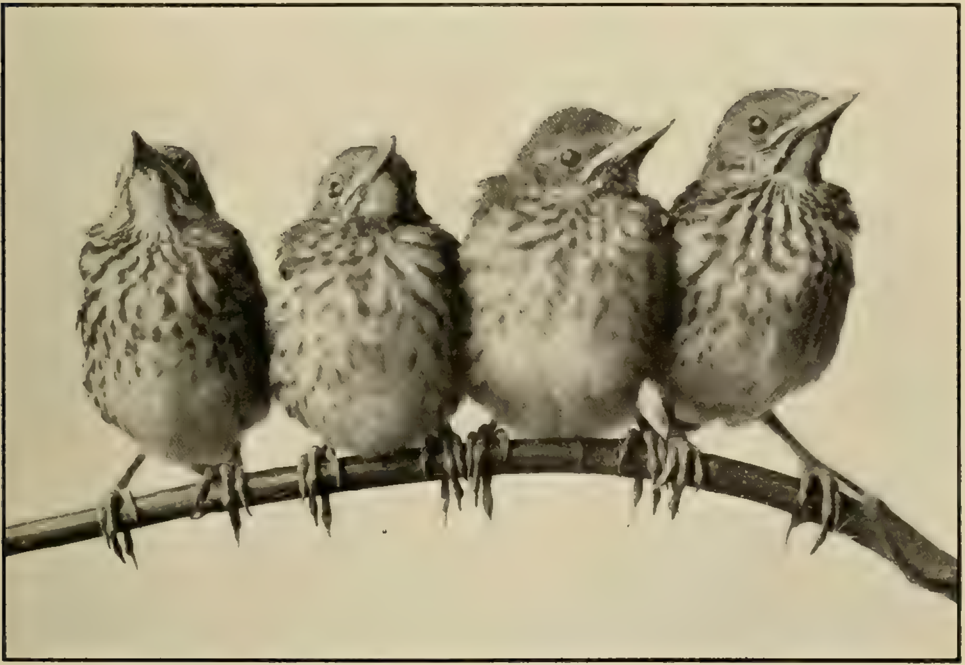

YOUNG BLUEJAYS IN NEST

Taking my subjects to the studio, I light and pose them as nearly as possible as I would a person, selecting a suitable background and avoiding any "fussy" accessories. By suitable backgrounds, I mean those that most nearly bring out the coloring as well as the forms of the subjects, and, of course, a background that is harmonious or suggestive of the birds' usual surroundings. How do I pose them? It certainly requires time and patience to get them as wanted. I first handle them a little, holding each one in my hand and stroking it gently over the head a few times, occasionally chirping to them. I have a tumbler of water and a spoon handy and put a little in their mouths occasionally, together with a little soft bread, when they settle down as if they were being cared for by the parent birds. It is then that the exposure is made, if their pose is satis-

THE FAMILIAR CAT BIRD

factory. The exposures are what might be called snapshots, as I use a fast portrait lens working at f-3.8. Before making the exposure I generally handle the birds long enough to slightly tire them.

One may object that my method has not the delight of outdoor picture making or the exercise of the ingenuity required thereby, but with me it is more a matter of satisfaction to get a successful picture, as it is the picture that I am after. I photograph a great many dogs and other pets, and a suggestion as to the making of portraits of the first may be of value to others. After posing the dog, with the proper lighting and suitable background all arranged, I slip a cracker from my pocket, bite off the corner, and just as the subject pricks up his ears at the sound, the shutter is snapped and a successful picture usually results. I at least find it much easier than the securing of a good picture of a squeaky "kid."



YOUNG BROWN THRESHERS

A Reply to Mr. Ogilvie

By Edward R. Trabold

After re-reading the first paragraph of the article by Charles R. Ogilvie in the September issue, the one regarding the Post Card Studio, I feel that I would like to add a few words on the subject. My original article was meant to point out the fact that the studio was to be for straight post card work and not portrait work. It would be poor policy for a portrait artist to make post cards at the price of the quick-finish operator. Some of our best men do make post cards, getting, of course, a fair price, and as a rule do not advertise the fact that they make them. I myself, with a regular studio, have to make them for some customers, and I have a select patronage. I do not keep sample cards in sight; but, when a customer insists, I get my price or will not make them.

Mr. Ogilvie says in his talk, "a vacant store at a low rate until a tenant comes along, and home-made accessories," etc. He is badly mistaken here, as many post card studios that I know are not rented at low rates, and they generally stay; and they frequently make more money than the average portrait studio. I know of a post card studio that pays one hundred and twenty-five dollars a month rent and employs two men. One day I did the operating for one, a lake resort in Montana, for one day; and, after taking out the expenses for the day, the proprietor was forty dollars to the good. Not bad, considering he did not open until noon and closed at ten at night.

Then, again, the country or "small city" photographer is compelled to make postals as well as portraits; for, if he does not, some one else will. One cannot tell a customer what he wants, and I am quite sure it would be poor business to turn them away, as I have known many a postal sitting to bring a re-order for a more expensive finish. We are not all Garos, Hoyts or Duhrkoops. We are most of us ordinary photographers who turn out average work, while the great artists that can choose their customers and the class of work they will do for them, can be counted on the fingers. I would not advise any one to mix the two grades of work if he can keep the post cards out; but, at the same time, I fail to see where one can lose much by doing both, my belief being based on fifteen years' experience. In the ordinary small town, one is rarely so rushed that the time of both the receptionist and oneself is entirely taken up. As a rule, there is always time to attend to all in the most satisfactory manner.

Post cards can be made to yield a fair profit if one uses the regular post card plates at nine fifty the case and cards at twenty-six fifty for five thousand. One can get from a dollar to a dollar and a quarter a dozen for them, and if small heads or three-quarter figures are made, one can retouch them in a "jiffy." While Mr. Ogilvie's article contained a great many true facts and was a fine talk, it conveyed one wrong idea, as the average studio man certainly cannot afford to turn down a customer who wants post cards and is not ready to order anything better at the time.

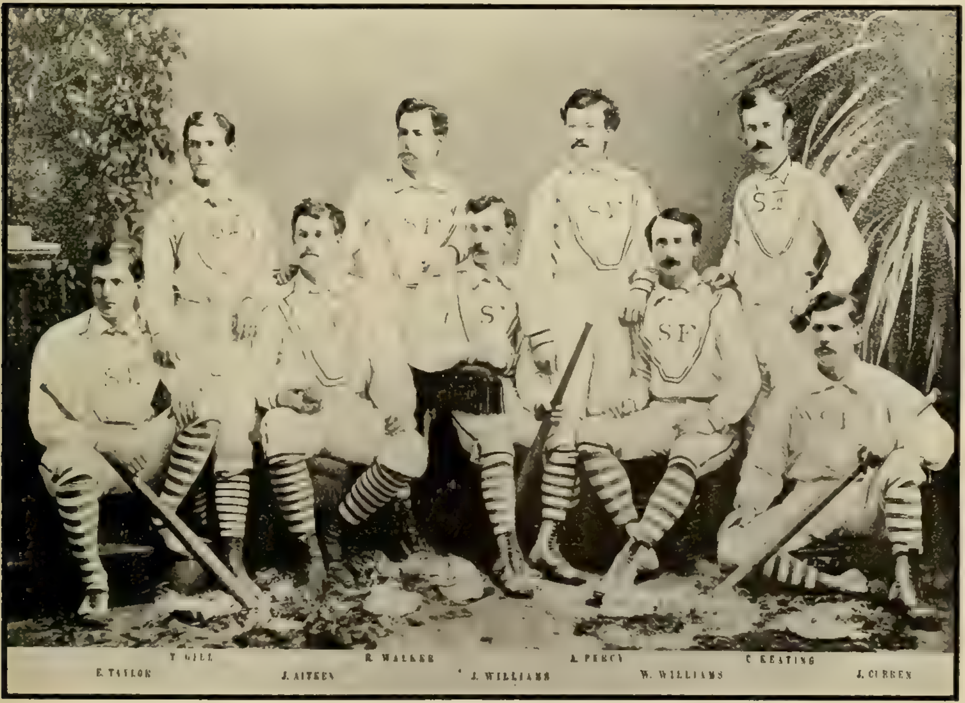
Historical Photography

By C. B. Turrill

With Illustrations by the Author

The mention of history has a tendency to cause a momentary mental picture of numerous large, heavy books, full of details, statistics, and all sorts of disagreeable things that must be read and remembered, and when historical photography is mentioned in connection with our own country, one naturally feels sorry for the enthusiast who does not seem to realize we have so few ivy-clad towers or picturesque castles, and no kings except those of diamonds, spades, clubs and hearts. So we are quite prone to continue the usual routine of photographing Bill's back yard, the dog therein, and other things of every day.

However, a new country has one great advantage in that we can get in on "the ground floor" in our historical picture-making. And besides, we can take the baby's picture, at as frequent intervals as possible, on the chance that he may become President some day—or that he may be hung. In either event, his pic-



PACIFIC COAST CHAMPIONS OF 1876.—Copy of faded photograph, now quite rare, made in 1877. These men, now grey haired, as well as their friends and relations, find this picture of much interest.

ture becomes an historical asset. So with the house in which he was born and the pond in which he sported as a boy playing hookey.

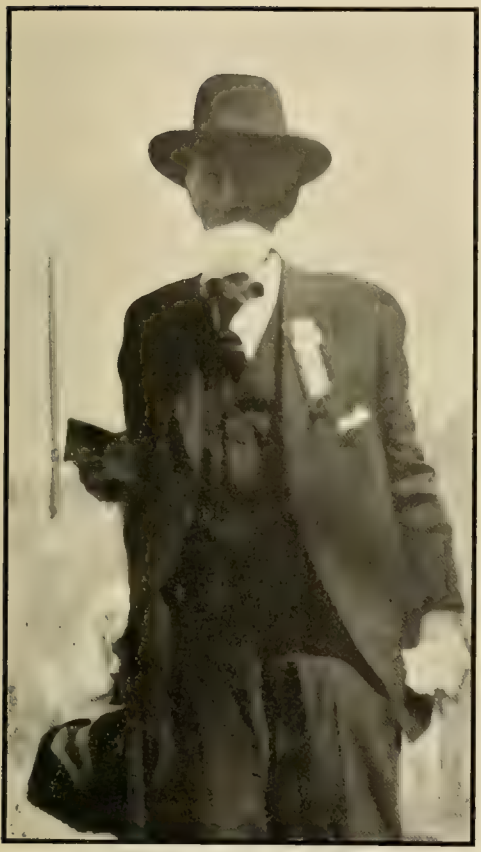
So, after all, historical photography does not mean only the making of artistic, properly lighted photographs of crumbling buildings that were new ages ago. We are making history all the time. The events of yesterday are history today. The flag-raising, the parade, the casualty of last week, each has been embalmed and becomes a part of that mysterious something we call history. It is a part of the life story of the individual, the town, the county, the State or the nation.

In almost every amateur's album of prints are pictures of historic value. An instance will prove this: Some years ago the writer was engaged in the almost hopeless task of furnishing the illustrative part of a book, "The First Half Century," which recounts the struggles and successes of St. Ignatius University. Many of the desired pictures were difficult to find; in fact, a few were secured only after some two years' search. The portrait of the founder of the institution was one of the most important. Photography as we now know it had not been introduced at that period and the good priest in his modesty and fully occupied time had never "sat" for a daguerreotype. Somewhere was found a modern "Brownie" print, soiled and crumpled, that some "kid" had "snapped" when the loved priest was not looking. The film could not be found and the boy who made it is unknown. The picture was a poor one and shows the man in his decrepitude. It was copied, enlarged, worked up, and is the only portrait in existence of the founder of a great educational institution. That little picture is an invaluable historical one.

The writer has just had occasion to print from some negatives made twenty-seven years ago, subjects that were quite commonplace at the time, yet subjects that could not be otherwise obtained, illustrating conditions that passed away a quarter of a century ago.

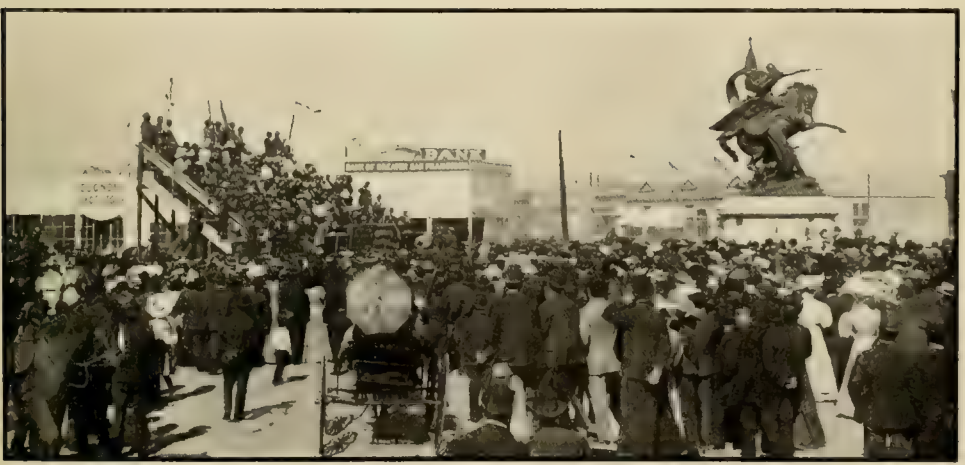
The almost daily search for such things has impressed upon me the importance of them and causes me to plead for their preservation. This is one side of a many-sided matter. Save any old picture you may have; the time may come when it is historically valuable.

But the deliberate making of historical photographs is a matter of equal importance and usually of more interest. It gives a purpose for our picture-making, something quite desirable after we have tired of posing the dog and cat and after the baby has reached that age when he is "just boy." It is a line of work that gives an added zest to our photographic quest by supplying a motive therefor. We buy a camera without any definite plan other than a hazy idea that we will make pictures, and when we fail, it is usually through our being without a fixed purpose, something definite to be accomplished. We put the camera away and get it out only when starting on an excursion, and then, quite too often, decide it is too much bother and put it back to accumulate more dust, or perhaps give it to some more enthusiastic young friend. Go wherever we will, there is a tree, a building, something that has a story. And just here is where many of our pictures fail; they do not tell any story; they are only photographs, devoid of interest in a short time. The making of photographs which tell stories, however, is, as Kipling says, another story—a long one.

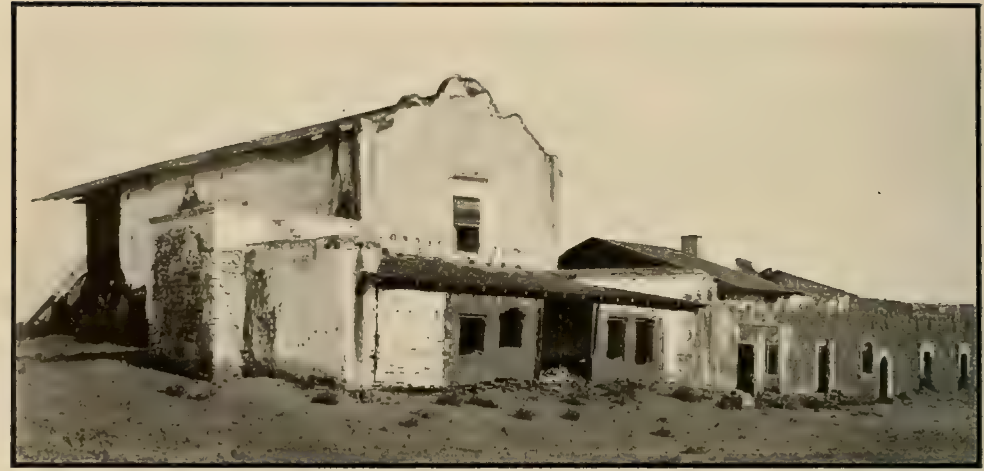


JAMES McCHRISTIAN, SURVIVOR OF THE BEAR FLAG PARTY.—This picture, snapped by an amateur at the dedication of the Bear Flag Monument a short time before his death on June 22nd last, is one of the latest portraits of this pioneer.

It matters little when or where we go, we are continually coming upon buildings that have historical interest. To hear their story is enjoyable, to be able to recount it to one's stay-at-home friends gives pleasure; but let us try to get a photograph that we may increase the pleasure of these friends as well as ourselves. In every section of the country there are landmarks—places of greater or lesser historical interest, and these are crumbling to decay. Our pictures may awaken interest in them and lead to their preservation. Our picture may possibly be the best, perhaps the last before the destruction of the object; it may chance to be the only one in existence. Such pictures have great value to the historical student; and the satisfaction of having a photograph that no one else possesses leads to renewed effort on our part to get other novelties, adding to the zest of our camera excursions. We live in an era of constant change. Almost any scene or view that was taken over a year ago differs quite materially from one just made.



UNVEILING THE STATUE.—Photographed August 12th, 1906. The small shops shown in the background are now replaced by the imposing structures of the Civic Centre and other massive buildings.

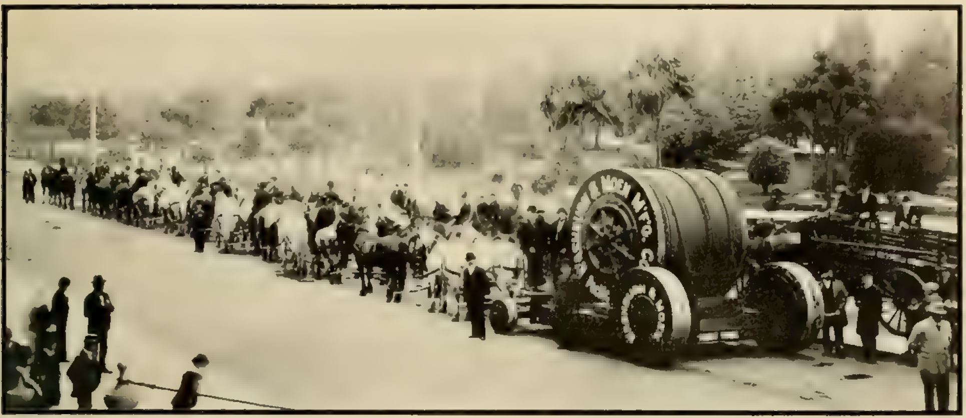


SAN DIEGO DE LA ALCADA.—The oldest mission in California. Photographed in 1886. As these old Missions are either fast going into decay or else being "restored" out of much of the semblance of their original beauty, pictures taken but a few years ago are often much more desirable than those obtainable at the present.

Speaking to Californian readers, it may be remarked that our own State is filled with the finest kind of historic material. The old Missions are an instance. It is well to get on our films or plates every architectural detail. Some time ago the writer received a call from a young German student who had made an extensive tour of the California Missions, sketching and photographing each architectural detail. He had made the expensive and tiresome journey from Germany to California for that sole purpose. And yet we think we have nothing in the historical line worth wasting our photographic material upon. One can profitably devote many little photographic pilgrimages to the Missions alone, finding on the way many interesting bits of scenery suggesting the trails of the long ago, where the pious Fathers trod while the early New England settlers were beginning to make history.

There are many fine opportunities for the photographer among the mining counties of our State. The writer has a photograph he made of the last remaining house of a mining town that had formerly contained two thousand voters. The old building, which has probably entirely disappeared ere this, had been but a rude cabin, yet rose bushes and berry vines spoke lovingly of the vanished hand that had planted them in the days of the town's prosperity. Among the forests of the Sierra Nevada may be found fruit trees still bearing their crops for the squirrels and birds now that the children who romped under their boughs have gone elsewhere. A picture of this kind, shown to some particular grizzly old man may draw forth a story as interesting and thrilling as any Bret Harte ever wrote. Just try it and see, if the opportunity presents. In any case, a picture that is an historical record has been secured.

And let us be careful to secure accuracy in the titles of our historical pictures. Let us take enough interest to ascertain the true facts. There are abundant opportunities for error and a part of one's pleasure in the work should be in the care needed to verify the authenticity, in an historical sense, of a picture's title. In one of the higher text-books issued by our State, one compiled



HAULING STREET CAR CABLES.—Photographed in 1880, and a not uncommon scene but a few years ago. Since electricity superseded the cable, such pictures are no longer obtainable.

by the great intelligence of a "Board," a picture containing two large buildings is titled, "Apartment Houses." As a matter of fact, they are not apartment houses that are passed off on the unsuspecting pupil, but hospitals. A person who prepares a text-book should know as much as the school boy who may laugh at his blunder if he would hold his job. Let us strive to make our picture as perfect photographically as we can and then find out absolutely the proper title to describe it correctly. Perhaps it would be well to get such information before making the photograph, being somewhat guided by the precept: "Be sure you're right, then go ahead."

There is not a reader of Camera Craft but can recall some historic spot, some monument, some building, close at hand. Get negatives of these things; and, if you like, send prints to Camera Craft, telling briefly the story of the subject. Mr. Clute will be glad to both read the story and look at the pictures, and possibly let the writer of this article, who is greatly interested in such work, see both. Then we shall all feel better through your having done a little something to make our picture work more interesting and more useful.

The Photographer

Faithful to life! Though working with negatives, he has strong faith in affirmative results. He looks through the camera and sees shadows, and by secret of skill dispels them with "high lights." He finds in the "dark-room" the pleasures of hope and, in the sun-brightened studio, the delights of labor.

In art, he is the schoolmaster, and teaches perseverance by "retouching." He creates upon opaque glass a silhouette and then, by aid of sunlight, gives a "proof" of his artistic genius. He courts the charming, sympathizes with the unattractive, and falls in love with beautiful creations.

Other professions have their "fine lines," but the photographer stands alone as the "picture" historian of passing life. He tells, in a reflective and silent way, of the singular attractiveness of babyhood; of the rapture and buoyancy of youth; and records, as with a pencil, the tender and pathetic story of old age.—Louis Varnum Woulfe.

Some Post Card Notices

By Frank Shirley

With Illustrations by T. K. Adlard

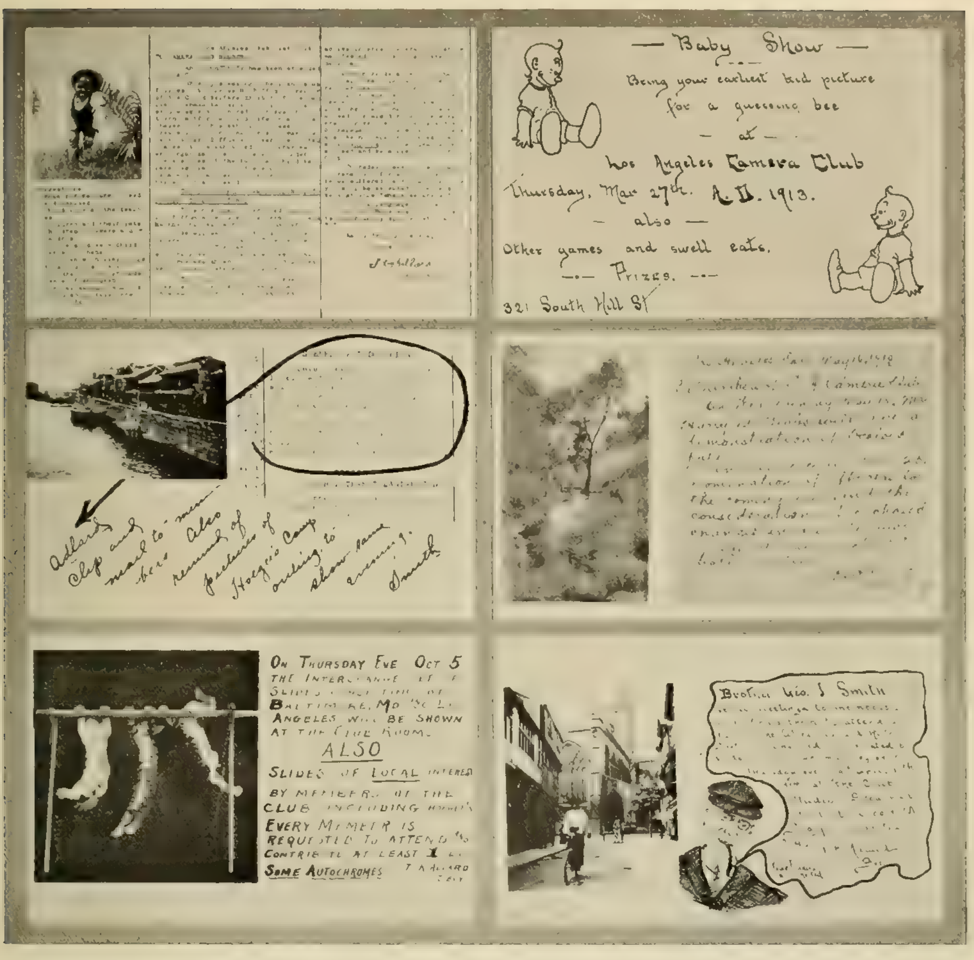
The Camera Club Secretary rarely wants for an opportunity to donate a good portion of his hard-earned leisure to the business of preparing and mailing notices of various doings, and it would seem a crime to suggest something which would further increase the work and worry of this harassed individual. In the Los Angeles Camera Club, we have a very docile and large-hearted man to do the janitor work of this kind, and if he ever has a sinking sensation within his bosom when somebody says, "I move that the Secretary be instructed," etc., he never complains.

All our announcements of outings, entertainments, lantern-slide exhibitions, etc., are made on postal cards, and yet we find opportunity for considerable variation therein. If the Secretary is in a great hurry, he employs the hectograph, an easy, rapid and quite satisfactory method. The principle is well known to most persons; all that is required being a typewriter having a special ribbon and a flat, shallow pan to hold the gelatin compound, which last may be readily obtained prepared at most drug stores. The surface of the gelatine, run into the bottom of the pan and allowed to set, is moistened, the original card bearing the desired notice is laid face down thereon and removed after about a minute. This done, a reasonable number of copies can be quickly made by successively pressing blank postal cards onto the gelatine surface, allowing them to remain a moment to absorb an impression, and then stripping off. Seventy-five or a hundred copies may be taken, if everything is working well, and in almost no time. The text may also be written or any extra embellishments added with a pen and hectograph ink. The "Baby Show" card, reproduced herewith, is an example.

If more than a hundred copies are desired, a more feasible plan is the mimeograph process with which most operators of typewriters are familiar. Any number of copies may be made, all equally good. This necessitates a rather expensive machine, but one used by some member for commercial purposes is usually available.

However, most of the card notices of the Los Angeles Camera Club are photographic products, these being more in accordance with the tenets of a camera club and the results much more satisfying. This method of making card notices admits of great variation and the exercise of considerable ingenuity. If a lantern-slide show is to be held, our usual plan is to select some representative picture of the set, arrange it on a card, with suitable text, and photograph the whole, taking care that the proportion of the copy is such that it will reduce to post card size and fill the shape evenly. Thus, 7x11 will reduce to postal

SOME POST CARD NOTICES



— Baby Show —
Bring your earliest kid picture
for a guessing bee
— at —
Los Angeles Camera Club
Thursday, Mar 27th. A.D. 1913.
— also —
Other games and swell eats.
—— Prizes. ——
321 South Hill St

Adlard clip and mail to members also remind of pictures of Hoegee's camp outing to show same evening. Smith

On Thursday Eve Oct 5
The Inter[illegible]
Slides [illegible]
Baltim[illegible]re, Md [illegible]
Angeles will be shown
at the Club Room.
ALSO
Slides of Local interest
by members of the
Club including [illegible]
Every Member is
requested to attend [illegible]
contribute at least 1 [illegible]
Some Autochromes
T. A. [illegible]
Secy

size (3¼x5½), and be in proper proportion. We have discovered that typewriting photographs very nicely, is legible, and that we can, if we reduce small enough in copying, get a great deal of reading matter on a common size card. Indeed, on several occasions we have overworked this feature and produced a card the text of which was scarcely legible to the average unaided eye. Of course, after making the negative, the printing of any desired number is an easy matter. A card made in this manner is a very acceptable notice and one that many members and visitors will preserve as a souvenir of the event, or to add to their collections if their tastes run to post card albums.

Quite frequently our Secretary does away with the photographic picture, having recourse to the skill of several of our members who are handy with the pen, using copy made entirely by hand or partly by hand and partly with the typewriter. Working in this manner has resulted in some amusing cartoons of officers or well-known figures around the club, while occasionally familiar cartoon figures from the Sunday supplements are drafted into service. Scarcely a lantern-slide show goes by but some one of the club is presented in some laughable or ridiculous pose, either by pen and ink cartoon or through an actual photograph. These are usually quite effective and well received. The cartoon on the card announcing "Historic Spots and Cathedrals" is supposed to picture our President, Mr. Smith, and looks enough like the gentleman to be recognizable.

Merit is not claimed for all of these notice cards, but it has been the aim to introduce some little novelty or whim into each one, enough to catch the eye of the recipient and impress the important feature upon his mind, something that an ordinary printed notice often fails to do. The idea is susceptible of great variation and the product is of course much cheaper than would be possible were cuts or halftones employed, particularly when the mailing list is not so large as to make the printing and initial expense of the postal cards an item. The entire work does not necessarily devolve upon one man, as one member may make the drawing or the photograph, another make the negative, another print the cards, and still another attend to the addressing. While not an exacting process, we find a slow plate is desirable for making the copies, the one used being the Defender Process, a plate having great latitude and otherwise filling the requirements very well, although there are no doubt many others equally as suited to the work.

Art is not merely a search for the old and tumble-down, the palpably picturesque of the drawing copy. Modern cities in their business and manufacturing parts afford many opportunities to the artist. Villadom is hopeless—no! not always; evening will make even that picturesque. It is the mixture of the rawly new, such as galvanized iron or fresh brickwork, with Nature that is most offensive. When it is all bricks and mortar or iron, piled around, with a little smoke and weather on them, plenty of pictures can be found under the right effects.—HORACE MUMMERY.

THE HILLSIDE MEADOW By A. E. DAVIES

Wake Up, Wake Up!

By George D. Jopson

With Illustrations by the Author

This admonition is not intended for the big fellow in the big town, but for the little fellow in the little town. Big fellow, if you are afraid of being bored, stop right here; but you, little fellow in the little town, don't stop, read to the end. If you do not grasp the idea at the first reading, then read again more carefully.

Little fellows in the little towns, the writer is one of you, for he operates a studio in a little town just an even hundred miles from New York City, a little town that is not large enough to support two studios, but capable of supporting one in a very comfortable manner. Like all towns of its size, it contains some quite wealthy residents, and these, like other people, have pictures made. Six years ago the writer saw an opening in this town, saw it as a business proposition, located here and left a city to do so. The then incumbent, so to speak, was an old-timer, working along the lines that were maintained a quarter of a century ago. He was, of course, failing to keep abreast with the swift strides of these strenuous times, allowing himself to

A SATISFACTORY POSE

A SELF-POSED PORTRAIT

drift into the class of the down-and-outers. The wealthy residents of the town had acquired the habit of going to the city, New York, for their photographic work, and one of the reasons for so doing will be referred to later. And you, little fellow, should make a big mental note of the fact, so that you will appreciate that reason when you come to it. The above is sufficient for a prologue, and we will now get right down to the facts as they exist.

Something happened a few short months ago, and, little fellow, the same thing is frequently occurring right in your very town, in the hamlets and on the farms and plantations that surround it. This wonderful event, wonderful to those directly interested, was the birth of a son and heir in one of the wealthy families—a first born. On the morning of November tenth, 1913, a letter left my studio addressed to this little man. It was not written on a letterhead. Oh, no! that would have been too much like business. It was written on neat note paper, and read as follows:

> "My dear Little Donald:
>
> "As tomorrow is your birthday, you being two months old, it affords me pleasure to congratulate you and suggest, as a fitting celebration of this momentous occasion, that you have your picture taken. If the suggestion meets with your favor, I will gladly call at your home at one o'clock, when the light is the best, and assist you to celebrate in this most appropriate manner."

There were two important results achieved by that letter. First, I hardly thought the little man could have received it, before I was favored with a personal call from the father. This was too important a matter to trust to the telephone or anything else—papa had to come in person. Second, it was the first letter that Donald had received and for that reason it appealed to the hearts of both parents. That letter is a treasured possession, and I have it on good authority that it is still shown to visiting friends; a good standing advertisement. There is another chapter to this story, and I hope you, brother, made that big note as I asked you. It disclosed a vital problem that confronts us all, whether we operate our studio in the village or in the small city.

But the new chapter. When I called at the home of Donald, at the appointed time, to assist him in celebrating his birthday in the suggested appropriate manner, I was invited into the den of Donald's father for a short chat. He, the father, picked up his mail which was lying on the table and hurriedly glanced over it. He held up a square envelope and remarked: "This is a coincidence." Opening it, he handed the contents to me. Say, you little fellow in the little town, can you imagine what it was? Do you, for one minute, suppose that such things are not happening right under your nose? Do you sit back and find fault because you are not favored with all the business in your town? The contents of that square envelope was an eye-opener for me. It was a neatly gotten up card calling attention to platinums, sepias, etc., for the holidays, and was sent out by a prominent photographer on Fifth Avenue, New York.

It is needless to say that I took my cue and got busy on the same lines, with the result that my December, 1913, business was larger than that of any

IN THE REDWOODS
By A. E. DAVIES

previous December during my photographic business career. The public admires the wideawake man. Wake up, you little fellow in the little town, and show your local four hundred that you are capable of supplying their wants. Do not try to show them how much money they can save by trading at home, but emphasize the quality of your work. While it is good policy to bear in mind that every dollar spent out of your town is lost to the town, it is a good business policy to set the example by trading with your local merchants, even if you do pay a few cents more to cover the freight they have to pay. Drive the point home that you are in the business to do quality work and impress upon the minds of your people how good you can make their pictures. Then, when it comes to the price you can fix it where they will realize that if they want quality from you they are expected to pay for it, just the same as they pay that big fellow in the big town. Do not forget that the value you place upon yourself is the value at which the public accepts you.

We must not confine ourselves to our own business in our search for business ideas, but we must look at the successful business men in other lines as well. I had a lesson driven home to me by an occurrence in a large dry goods store one cold, blustery day last winter. The proprietor of this store never waits upon customers, a large number of clerks being employed. He comes and goes in his automobile, has a home luxuriously furnished and mingles in the social set. But upon the day mentioned he chanced to be walking across the store when a poorly dressed old lady came in. He stepped up to her with a pleasant "Good morning," remarked upon the severity of the weather, got a chair for her and insisted that she sit by the radiator and warm herself. This old lady came in to spend only a few cents; and I afterward learned that this merchant always took the same solicitous care of his humble patrons while with the better class he passed only a pleasant greeting. His desire was to make his more humble patrons feel at ease while in his store. Do you wonder that he is a successful business man?

The importance of a neat studio and a good personal appearance has, no doubt, been drummed into you so often that I can pass it over for this time, although such a subject can never be overdone. Do not think that because you are two or three hundred miles from a metropolis that you have a mortgage upon the trade in your town. You have not got things quite so much to your liking. These metropolitan fellows have a mailing list of eligible patrons who reside within a radius of several hundred miles. They keep mailing to these names until at last they land them; and, after being landed they do not allow them to forget that they are still doing business at the same old stand. It is therefore your business to keep busy to the end that your people will realize that they have a live photographer in their own town, one who does not need a phonograph to constantly admonish him to "Wake Up, Wake Up!"

The question is not, Will men honor you for your work? But, Does your work honor you? Your concern is not only to create profit for yourself, but to make that which will profit many besides yourself.—Ozora S. Davis.

Exposure and Interpretation

By Raymond A. Cogswell

EDITOR'S NOTE: *This article is the fifth and last of a series, the first of which appeared in our June issue. However, each being separate and distinct, the reader should not feel that this one is at all incomplete or dependent upon those preceeding it. Mr. Cogswell has prepared these articles in the hope of awakening the average photographer's interest in the science that is just outside of his observation and reading. He himself has found the vistas that may be opened out from photography to be very interesting; in fact, he suggested to Hamilton Wright Mabie, some years ago, a plan whereby the camera could be made to share with the piano-player its value as a means of acquiring culture by those whose ambition and curiosity—and love of beauty—were sufficient to carry them forward, and Mr. Mabie elaborated this idea in one of his later articles.*

The utilitarian aspects of photography may be considered broadly under two heads: photographic processes may be used as a means of recording faithfully the subject photographed, the aim being to secure scientific accuracy; or, secondly, a means of interpreting the photographer's own mental image or idea of the subject, his endeavor being to arouse in the beholder something akin to the interest or even the enthusiasm which stirred him to the task. It is only with this latter aspect that we are at present concerned. At this junction the writer feels called upon to explain that the question as to the status of photography among the arts and sciences has been endlessly discussed without reaching any definitely accepted conclusion. His own position in the matter, one that is fairly typical, is this: Strictly speaking, considering the nature of the mechanism used, photography is not a fine art. But, in many of the results achieved, and in the impelling spirit of much of the work done, a large measure of artistic vision is often secured. As a matter of human nature, the writer would probably maintain that photography was indeed a fine art as against those who held it to be simply a reproductive process of chemical technology, and that it was merely a reproductive process against those who claim for it the full status of a fine art.

One of the principal characteristics of work in fine arts is flexibility, particularly in the matter of creative technic. The artist may use, at will, any of the innumerable combinations which he may feel will express his idea, subject only to such general laws of composition as are accepted as canons of art. In comparison, the work of the photographer seems severely limited because he must effect an actual bit of scenery, portraiture, or figure composition. These limitations, however, are not so severe as might be imagined and oftentimes serve the purpose of increasing the scope of his power of expression. For example, he may modify the disposition of the light in a portrait as easily and deftly as a painter, and oftentimes with greater truthfulness, simply because he is dealing with the physical thing, light itself, while the painter can only record his conception of light as it would probably appear under the ideal conditions he contemplates. The photographer can gain softness of contour by using the marginal portions of his lens in addition to the central or sharply focusing portions. If this is done with scientific accuracy coupled with a cultivated artistic taste, the result is truly remarkable. The effect is not that produced by throwing the lens out of focus, neither is it that resulting from the use of incompletely corrected lens. Comparatively few of the diffused focus lenses produce this pleasing effect, an effect that is as ephemeral as it is rare. Even when the proper lens is employed, the battle is only half won, because all subjects cannot be submitted indiscriminately to this treatment. However, when a subject containing a wide and varied range of texture is at hand, this device is at the command of the photographer and may be used to secure all the soft, tender beauty of a drawing or an etching, supplemented by a peculiar photographic quality that is very pleasing.

In the graphic arts the quality of "texture" is given much attention and study. In photography, on the other hand, this matter very largely takes care of itself. However, in monochrome work, one has to consider the lack of color contrast and must needs resort to devices which will suggest it or perhaps take its place. An every-day example is the rendering of flesh in portraiture. The Caucasian skin is obviously not as white as a starched collar and should not be so rendered, but in choosing a tonal scale, the question of interpretation at once arises; how far shall the flesh tint be thrown down into the gray in order to suggest in black and white, the equivalent flesh tint as it appears in color? There seems to be practically no "correct" rendering. Orthochromatic plates by no means solve the difficulty, although these may greatly assist. Each case is an individual problem which must be studied by itself as a matter of artistic interpretation. A tone that would be entirely satisfactory in the case of a dark background and low tone effect would be entirely impossible with a white ground and a high key. With some subjects and with certain handlings of the light, the flesh tint must be rendered lighter than a strict monochromatic transcription would give, while in other cases, artistic feeling seems to demand that it be rendered darker. But the point to be noted is that it is a matter in which the final judgment must be left to the artistic feeling of the photographer rather than to his mere technical expertness at reproduction.

An ever-present problem of the photographic artist is the suppression of unnecessary and detracting detail. The purpose of a single painting, let us suppose, for example, has the expression of an action as its motif or principal theme. In order to achieve this within the limits imposed by the painter's material, all the elements of life which have a bearing on that motif must be brought within the scope of the picture; or, to put it in another form, all the many items which, in the physical world, are widely separated in points of space and time, yet have some secret inner connection, are brought into such relationship in the artist's thought that, in his picture, they seem to be the inevitable denouement of the action portrayed. The inconsequential must be eliminated, the salient points brought in. Perhaps no one spot in all the world could be found that would correspond exactly to the artist's ideal, for this ideal is a composite made up of elements from many places, brought together through his unifying insight. The photographer, too, is confronted with the same problem, and if he have insight and skill, he may perhaps occasionally achieve that miracle of inner vision in which all these elements are manipulated with much of the force displayed by the less restricted artist of the brush. An example in point is the commendable endeavor of good photographers to secure luminosity in the shadows; to make them articulate and full of life, rather than to leave them the too common masses of black stuck onto the white paper, to make them real recesses in space, which invite the imagination and give contour to the picture.

If the photographer work in color, his artistic problems are increased several fold, for he must then consider color composition as well as that of line and surface or form. Furthermore, under the present development of color photography, the possibilities of color modifications are not so securely achieved as the corresponding manipulations in monochrome. Nevertheless, the material is there and time and experience will train the worker and enhance the possibilities.

But with all the scope allowed to artistic feeling, the photographer must still keep within the realm of what is physically possible. And in some measure, in this matter, he has the advantage of the painter. An example may be found in his depiction of moonlight, a subject in which he is usually even more convincing than the work of the painter. There is a sound scientific reason for this. As stated in the article on color, the retinal mechanism for seeing in dim lights is distinct from that which comes into play in strong lights. In dim lights the sensitive members are innumerable rods bedded in the retinal coating. These rods are insensitive to color and see all colors in terms of gray; when a strong light comes into view, these rods are stunned, as it were, and the cones then begin to function, showing the true colors of objects. Generally speaking, moonlight is not strong enough to bring the cones into service, so that the vision is a function of the rods only and the subject matter is perceived in terms of gray. The painter nearly always gives color to his moonlight effects; and, as a result, usually fails. The photographer, on the other hand, gets an underexposure with sunlight, but translates his record by means of the print into the gray terms which are true to moonlight vision, and so secures a convincing and an artistic result.

The question in regard to "straight" or "fuzzy," or as to "advanced" or "impressionistic," or any other particular kind of photography, is of no cultivated artistic importance. It is only requisite that care be taken to avoid means that, in the hands of workers without true artistic feeling may give results that border on the grotesque. An example of this error is found in the printing of the head only of a photographic portrait by vignetting and then working in the draped shoulders in outlines and adding a hatched background. The textures of these two methods of treatment, i. e., photographic and freehand, are absolutely incompatible, and the result cannot but be hideous and objectionable to the cultured eye.

The main requirement for artistic photographic interpretation is that the photographer be familiar with all the technical details of his process, their possibilities, their limitations, and that he should possess the necessary skill in their use. For the rest, his work is almost identical with that of his more creative brothers of the graphic arts. The final result of his effort will be measured by his cultivation of genuine artistic feeling, schooled through a long range of experience and a conscientious study of the fundamental principles underlying all of the fine arts.

It has been quite truly observed that it requires a great deal of life to make a very little art. And so it is given only to a few to attain to such clearness of vision, and to such insight into the guiding motifs of the human heart that they may present to their fellow men their vision of truth and beauty, that they may convince their friends of the companionship of yearning lives through the medium of their chosen art, convince them of the solidarity of human lives far apart in time and space, of their mutual hopes, fears, aspirations, and, above all, of their mutual love of beauty. But if the artist be deserving and fortunate, even this task may be accomplished and we, whose hands are busy with the work of the world, may stop for a moment and look up at the vision of beauty thus presented; for truly this bit of beauty, rescued from the remorseless rush of time, has become art, and then, behold, we find the breath of life is there!

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—The Editor.

A DARK-ROOM UTILITY: Nearly all dark-room workers occasionally experience difficulty in locating some article therein which may be wanted while working. The bulb of an ordinary pocket flashlight can be dyed ruby with Burke & James' Rubilene; and, using this, the worker will be enabled to locate anything wanted quite easily, without danger of fogging the plates or films.—La Verne T. Walter, Nebraska.

STAINS ON DEVELOPING PAPERS: Stains on bromide and other gaslight papers can be avoided altogether by taking the following precautions: The developer should not be used beyond the point at which it becomes cloudy. Old solution should not be revivified with new. Each print should be rinsed for an instant before consigning it to the fixing bath, and a quarter of an ounce of sodium sulphite should be added to each pint of the fixer; and, most important of all, the hypo should not be used for two days in succession. The prints, too, should be kept on the move in the fixing solution, and no opportunity given for large air bubbles to collect.—W. F. H., Ohio.

STEREO PORTRAITS: I wanted to make some stereo portraits and thought I would get better results by using a pair of the Kodak portrait lenses. These were purchased, but I failed to realize that at the low price at which they are sold I could hardly expect them to be of exactly the same focus when even high-priced lenses required careful matching. But the mistake proved to be a happy one. With one of the prints slightly softened by its corresponding lens being thrown slightly out of focus with the attachment when the other is in sharp focus, the two images combine in the stereoscope to give a most pleasing result. There is an almost imperceptible softness that is quite satisfactory with portrait subjects, much more so than the sharpness that sometimes becomes obstrusive.—E. R. T., Indiana.

THOSE HARD, SHARP PORTRAIT NEGATIVES: I suppose every portrait worker occasionally turns out negatives that, through being hard and contrasty, are almost impossible as printers. Such ones are quite certain to be fairly sharp, and it was this fact that suggested the remedy to me, a remedy that I found most effective after trying such dodges as printing through celluloid, reversing the negative in the frame, and the like. I secured one of the Verito lenses made by the Wollensak Company and made my prints from these negatives through my enlarging apparatus, using the soft-focus lens. Of course, the prints were not enlargements, except in a few cases where the original negative gave the head a trifle small; but the prints were completely under control as to the amount of softness introduced and the contrast secured. The plan is one that every portrait worker will do well to try, and I am sure he will thank me for the suggestion.—H. J. K., Ohio.

UNMOUNTING PRINTS: For the last two years I have entirely discontinued the use of home-made starch paste in favor of Higgins' well-known product for the mounting of my sample prints. It is often quite desirable to separate these specimens from their mount in order to use either the print or the mount, or both, a second time. This is almost impossible when starch has been used, but when the commercial product has been employed, it is only necessary to cut a piece of blotter the exact size of the print, dampen it, place it down on the print with a glass and weight above, and in an hour or so the print becomes moist and easily peels from the mount without even cockling the latter. The same applies to prints mounted in albums and on boards for multiple opening mats. In fact, I use the Higgins paste whenever I think there will be any likelihood of wanting to remove the print at some future time.—T. G. B., Ohio.

MASK FOR PRINTING SMALL FILMS: While the August issue contained a description of a very good method of making masks for printing small film negatives, I believe the following plan is an improvement thereon. Take a piece of heavy cardboard or an old mount and cut it to fit the printing frame to be used. Cut an opening just large enough to receive the negative, in the center of this, and over that side of this opening that goes next the glass, paste a mask made by cutting the desired size of opening in a piece of opaque paper the same size as the cardboard, allowing for the desired white margin on the print. Pasting down this mask prevents the film negative from slipping or working in between it and the cardboard. To use, place glass in printing frame and on this place the cardboard mask, drop the film in the opening, lay the paper on top, and then, by placing the piece cut from the center of the cardboard in the opening, there will be good contact between print and film when back of frame is closed. By having on hand several of these masks to fit one's printing frames, one will always be ready to print from any small or odd sized negative; and, if one uses a large frame with several openings for small negatives, he can make four to six prints with one exposure.—M. Todd, Nebraska.

AN IMPROVISED DARK-ROOM: On some of my camping trips, and where an ordinary tent failed to sufficiently exclude the light, I found that a satisfactory makeshift could be improvised by setting up the tripod and covering it with a heavy robe or blanket. This expedient permitted me to load plate holders and develop trial exposures; and, while somewhat cramped and unhandy, the inconvenience was preferable to the disappointment of fogged plates and uncertainty as to the correctness of exposures particularly desirable on subjects that could easily be duplicated while on the trip.—S. H. Nichols, I. P. A. 3742, California.

COLORING PHOTOGRAPHS: I do not understand why more of our amateur workers do not try their hand at using the Kodak Stamp colors or the Japanese water colors that come in the same form. They are quite simple in use; and, if one will but use them in moderation, not trying to secure too much brilliancy or contrast of color, the results are exceptionally fine. The colors are easy to use and the amount of skill required seems hardly worth mentioning. I have some examples of work done by my two children, aged respectively ten and twelve, and they compare quite favorably with much of the commercial work colored in large quantities and offered by the art stores. If one will give the well fixed and washed prints a five-minute soaking in a bath made by adding one part of formaline to twenty ounces of water, and then rinsed and dried, they will be found to take the color evenly and smoothly. One should be careful to avoid touching the surface of the print with the fingers, as the least suggestion of greasiness makes the even application of the colors difficult. Should one find this difficulty, a tuft of cotton with a little dilute ammonia will correct the trouble.—M. C., Illinois.

REMOVING FILM FROM OLD NEGATIVES: During the past year there have been several methods for doing this published in this department. My idea is that the lack of unanimity as to the best plan is entirely due to the different condition of different workers' films. One will have used a developer like pyro that has a tanning effect upon the emulsion, following it with a fixing bath containing a hardener, and his films will almost permit of their being pulled off when in the natural dry state, once the adhesion at the edge is overcome. Another worker uses a different developer, followed perhaps by an overworked plain fixing bath, with the result that almost any attempt to soften the film of emulsion results in producing a mushy, unmanageable mess. Possibly the difference in the gelatine used by different plate makers has a contributing effect upon the results. For my own work, I find that it is only necessary to give the waste negatives a sufficient soaking in quite warm water; when, by scraping along the edge to destroy the adhesion there, the film rolls back in one piece, once it is started back by rubbing with the finger at some place where it seems to start easily. Others might try this plan before going to more troublesome efforts.—W. E. R., Illinois.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

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The Importance of Retouching

Any one having a knowledge of the business of photography will admit that much of the success of a studio depends upon the ability of the retoucher employed and practically all good commercial establishments are fully as dependent upon the skill of the workman who can do good blocking-out and like work. In fact, many large commercial photographic establishments employ one or more men who are capable of doing that form of retouching and air-brush work which all prints require that are intended for reproduction in the better class of catalogues. And yet, how few good retouchers are available and how many otherwise good workmen narrow their chances of employment by not learning to do at least proof retouching. The "Camera Want" department of our advertising pages puts us in touch with a large number of proprietors of studios who are looking for help, from time to time, the most frequent demand being for an all-around man who can do some retouching, the next most frequent form of announcement being that of those who style themselves as "all-around, except retouching." While the employer who expects to secure an assistant who is a good retoucher as well as a capable operator and printer is perhaps expecting too much, he is certainly not unreasonable in expecting to obtain the services of one who, while being a good operator and printer, can do proof retouching reasonably well. He is certainly much more reasonable in his expectations than the one who applies for a position as an all-around man, without any knowledge of retouching. The small studio that finds it necessary that the operator shall also do the printing is hardly in a position to employ a retoucher except as piece work is given out in the form of negatives from which pictures have been ordered. The man who calls himself an all-around photographer is, obviously, looking for a position in a studio of that kind; but why cannot he understand that some knowledge and skill as a retoucher should form a part of his stock in trade to make his services available under those conditions? In fact, the logical method of working, even in the more pretentious studios, would be for the operator who makes the negative to do the retouching, as by such an arrangement the original effect aimed at in making the lighting could be more nearly secured. As matters are generally arranged, the operator seeks to secure a certain effect, while the one who does the retouching may have entirely different ideas, with the result that instead of the retoucher carrying along the ideas of the operator, he does not even know what this idea was and often removes the partial success achieved, only to substitute therefor an attempt along an entirely different line. The final result is the usual meaningless map of the sitter's features, with its only claim as a portrait resting on the proper location, in a flat sea of white, of the eyes, nose and mouth within the outline of the face. Let us have a little more appreciation of the importance of good retouching,

retouching that does not destroy the likeness, to the extent of striving to acquire the necessary skill, if an employe; and to the extent of demanding and paying for this skill, if an employer.

Mr. Snyder's article, the first in this issue, should be an inspiration and an encouragement to a large number of our readers. We believe there is all truth in his statement that the work is mainly a matter of good judgment and that degree of training of the hand that a very little practice will give. True, one individual will possess more of the required appreciation of what is best done than another, and of course it is quite natural that some will be more capable and rapid with the pencil than others. Still more will depend upon the individual when the photo sketch and the photo etchings are attempted on account of the somewhat artistic requirements thereof. However, these facts do not in the least invalidate the merits of the suggestion that every photographer should make an effort to acquire such proficiency as he can in a line of work so closely interwoven with and so all important in photography, and particularly that branch devoted to portraiture. Mr. Snyder has promised us other articles that should be most suggestive and helpful, and we believe any of our readers who might care to do so could arrange with him for a reasonable amount of further help and advice such as his past experience as an instructor so eminently qualifies him to give.

A Proposed Injustice

By Sigismund Blumann

At the last annual convention of the Photographers' Association of America there was some little discussion of a proposed law, one providing for the examination and licensing of photographers, something along the line of the legislation maintaining in the case of plumbers, barbers and others. I can not ask the editor to make room for the entire text of the bill, which provides for examination and a twenty-dollar fee therefor, but the following extract, being Section 8 thereof, will suffice. It reads: "No person not a holder of a certificate of registration, exemption or apprenticeship, duly issued to him and recorded as above provided, shall, after the expiration of the six months after the passage of this act practice photography in this State. No person shall falsely personate a registered photographer of a like or different name, nor buy nor sell or fraudulently obtain a certificate of registration, exemption or apprenticeship issued to another. Practicing or offering to practice photography, or the public representation of being qualified to practice the same, by any person not authorized to practice photography, shall be sufficient evidence of a violation of this act. Any person who shall violate any of the provisions hereof shall be deemed guilty of a misdemeanor, and upon conviction thereof for each offense shall be punished by a fine of not less than twenty-five dollars ($25.00) nor more than one hundred dollars ($100.00), or imprisoned in the county jail not less than thirty days nor more than ninety days, or by both such fine and imprisonment."

Its constitutionality is doubtful. But in fear that amateur photographers may be too apathetic to try and block its passing and too docile to combat it when it shall have become a law, I have taken upon myself to show here and now how its restrictions must entail a loss in liberty and profit on us all, and how it can benefit only those very ones whom it were best that photography, as a business or as a pleasure, were well rid.

A PROPOSED INJUSTICE

If, as the great exponent of fundamental law has said, "All laws must be based on reason and logic," I believe I can show that this proposed enactment is neither reasonable nor logical; *ergo*, it can be no law.

Amateur photographers can injure the photographic profession only in three ways: by turning out cheaper and inferior work; by turning out better work at the same price, or, by turning out as good or better work at a lower figure. But before considering each of these possibilities, let me call attention to the already well-known truth that the high-class professional suffers from no other competition so keenly as from that which he encounters right among his fellows. The two dollar and a half cabinets, the coupon, the free enlargement, the crayon premium, all prove my contention. The inferior professional has an established place of business; he advertises, reaches out without any regard for ethics for patronage, and he imitates, in so far as he is able, style, mount, pose, finish, and even method. The amateur who is proficient enough to find a buyer for his prints is generally one well established in some other calling and his encroachment is so seldom as to be negligible. In fact, he sells where otherwise no sale would have been made.

If the amateur turns out inferior work and the prices tempt the buyer it is *prima facie* evidence that the price of the professional had been prohibitive. Taste grows with familiarity, and having purchased inferior pictures at a low figure the desire for the best at any price is likely to follow. Jewelers affirm that every purchaser of a paste imitation gem is a likely prospect for the sale of a genuine one. When everyone had chromos hung on the wall the real sale of paintings began. The phonograph precedes a popular taste for the symphony concert.

If the amateur turns out as good or better work at a lower price, he must soon become so busy as to force him into the professional class, where not even this law can keep him out. In heaven's name, let him stay at some other business and sell his occasional print.

Let each professional so excel in art and workmanship as to be above competition and he shall need no law to give him a living. The most eminent professionals in the land will confess, I am certain, that the kodak has done as much for betterment in taste and patronage as the costly furnishings they put in their reception rooms. Which leads me to remark that when amateurs were so rare that no one considered them an interference, the leading gallery men made less in a year than they now find themselves able to invest in furnishing their establishment. The kodak has done more to eliminate such crudities as the glossy and embossed cabinet on a six-ply card mount than would college educations or courses at an art school.

The portraitist disposed of, we come to the pictorialist. He competes, if at all, only with the commercial photographer. God save the mark! Must Porterfield keep his prints or give them away? Or must he buy a rotary printing machine, turn out from his negatives by the hundred in order to live and become entitled to make pictures under the law by sacrificing his art to his business? Is it come to the pass when an artist may not fill his stomach by any honest means and give his whole spirit to his art? Charles Read tells of a learned physician who, in the dark of night, played the part of a coachman to earn the keep of his equipage and family. He was able to eat while waiting for his practice to build up. But with the passage of this proposed bill we have a case in which we forbid, or try to forbid, men from earning what they can from their own efforts.

The doctor, the dentist, the plumber, have our health in their keeping. They must be examined and licensed. The lawyer has a hand in our welfare. He is amenable to restrictions and control. But a picture is a tangible thing that the buyer sees and wants, therefore buys. Remember, this proposed law is not one of censorship. It does not promise to keep lewd or inferior pictures out of circulation, but forbids the sale of any photograph, under penalty of law, unless made by licensed photographers. We shall look forward to the licensing of vest and pants makers next. I offer an amendment that the professional photographer be under license from the time he opens a gallery and puts up a sign. The public needs protection from those who compel the acceptance of their output by getting part payment in advance, and so leave no alternative but to pay all or lose the portion paid.

And once again, the taste for such work as Garo, Pierce, Mrs. Kasebier, Strauss and others give us did not grow spontaneously. It is the product of years of cheap, home-made pictures. When the family has been snapped in every conceivable place and position, the ambition to own a real portrait, the best that can be made, becomes an obsession. One returns to this point again and again, since it is the one idea, and a mighty narrow and selfish one, that could have led to framing the enactment.

Such a law must affect the supply end most vitally. Men spend as they earn. Let us hope so. It is an average rule. Take away not only the money returns of the amateur, but his right and hope of such recompense, and you will cure thousands of an expensive hobby. The photo shop shall look like the bicycle store—forlorn and a memento. The mighty host who know photography intimately should die out and the popular taste return to cabinets—yes, even tintypes.

Render this measure a law and you will license many great artists with the camera out of existence. You will kill future artists in their inception. I appeal to every high-minded, unselfish professional to come out in open opposition to this attempt at despotism. Let their standing and ability be a bulwark without the bolstering of pernicious legislation, which at best must, like a boomerang, swing back and strike them where they sit. I call on every owner of a camera to protest in the most effective ways that occur to him against a curtailment of his rights. We want no putting on the table of this enactment or shelving against a more opportune time to sneak it through. We want it killed dead beyond hope.

More About That Photographic Car

Since the article on "A Photographic Car" in our last issue was sent to the printer, Mr. Hubbs has been able to secure the advice of an expert wagon builder, and this gentleman advises that wheels as low as those of an automobile would make it impossible for four horses to pull a car approaching the suggested dimensions when loaded with the outfit, particularly over bad roads. This dismisses the subject of wheels, which evidently will have to be of the usual wagon size. This gentleman also advised that with a car having a height of from seven to eight feet there would be considerable danger of its upsetting when making a short turn or descending a hill. Therefore the best plan would seem to be to so arrange matters that the entire top of the car would be lowered about three feet when traveling, to be raised when located for business. The weight of the intended load becomes important in calculating the kind and size of axles, strength of springs, tread of wheels and other details. As this load will consist of both the photographic equipment and some little furniture of the simplest kind, it is evident that the weight will approximate twenty-five hundred pounds and this should be taken into consideration.

As to anchoring the wagon when located, the suggestion has been made that this is sometimes done by digging small trenches into which the wheels drop, so doing not only making the car more stable but bringing the floor closer to the ground, thereby increasing the convenience.

A few other suggestions not covered in the article last month might be made, namely, fixtures, benches, tables, stove, etc., should be easily fastened to the sides or floor of the car so as not to shift in traveling. Partitions and walls, if made of canvas, might be given a fireproof coating, if so doing is practical. Beaver board might be well suited to much of the interior construction, if its greater weight than canvas is not objectionable. It has also been suggested that it would be advisable to make the car narrower and secure the same space by increasing the length, say making it 7x30 rather than 9x25, which latter gives a width that is not practical.

Readers who intend sending in their plans should get to work thereon at once, as we are desirous of publishing the prize-winning sketch and specifications as early as possible and there will no doubt be found that some correspondence is necessary in order to secure the complete ideas of those submitting plans.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Some Interesting Winter Work

You have all seen greeting and other cards made up of scrolls and sprays of flowers or leaves surrounding a photograph, or a card or shield bearing the verses or greetings that are the purpose of the design. While flowers are not so very plentiful in winter, time is generally so, and the worker who wishes to turn his hand in this direction can more easily secure artificial flowers or employ the hothouse kind than he can any substitute for summer days and the scenes they make available. As a means of passing many pleasant winter evenings, it would seem that the arranging and photographing of these composite cards would prove most satisfying. All one needs to do is to bear in mind the proportions of the post card and see that the space being filled corresponds thereto; and when an arrangement that is thought satisfactory is secured, it becomes an easy matter to obtain the right amount of reduction by placing the camara at the proper distance and then make the exposure with a flash. Large sheets of heavy card, both white and tinted, should be used as the "form" on which the composition is to be built up. Sprays of flowers or leaves, sea shells and sea weeds, bits of small rope, cards bearing the desired lettering or greeting, scrolls and borders cut from advertising pages of the large illustrated magazines, one's favorite photographs or those selected with reference to the tastes of the recipient, all these and many other things may be used in making up the effect to be photographed. Very effective designs can be produced by inserting a properly worded card in a rightly arranged still-life group made up of such simple elements as books, vases, ornaments and other common reading table adornments, the table itself forming an excellent background or support for the composition. Of course, in these more ambitious efforts, the making of the negative involves more care as to lighting than does the sort first suggested, which are mainly arranged in one plane on the flat card. If one wishes to produce a blank space in the composition on which the greeting can afterward be written in, all that is necessary is to introduce a blank card of the desired proportional size and, of course, a white or light colored one.

One Kind of Tank Development

I was in the dark-room of a commercial photographer one day recently and became quite interested in his method of tank developing, finding it somewhat different from the plan usually followed. He used two tanks, one filled with a concentrated solution of the developer proper and the other a one-in-ten solution of potassium carbonate. The first solution, that in No. 1 tank, was made up of five drams of metol, two of hydroquinone, two of bromide of potassium, and two ounces of metabisulphite of potassium, all dissolved in a like amount, one hundred ounces, of water. The method of using is as follows: The plates are lowered into No. 1 tank and allowed to remain one minute, then withdrawn and lowered into No. 2 for one or two minutes, after which they are withdrawn, allowed to drain for a moment or two and then examined for density. Those properly developed are rinsed and immediately placed to fix and those lacking in density are returned to No. 1 tank. Needless to say, the tanks are both of the kind that permit of their being turned, an important operation with such strong solutions. This worker argues that the ordinary method of long developing with a dilute solution is not the most satisfactory for under-exposures, resulting in negatives practically useless for printing. Furthermore, he finds that in his work it is often quite important to rush development, and as his method gives him better results than the usual one, it is used exclusively. He finds that the development of a batch of plates, equal to the capacity of the tank, requires but five minutes, an item of some importance. In addition, the item of expense does not figure as one would at first suppose upon noting the amount of chemicals used in one filling of the tank. The developer he was using in the No. 1 tank had been in continuous use for many weeks, being added to from time to time to keep up the quantity necessary. The alkali solution in the No. 2 tank requires being made up new quite frequently, as it seems to become exhausted and work with less contrast when worked too long. The temperature is kept about sixty degrees or thereabouts, and with a very little skill acquired after a few experiments one will find it quite easy to produce almost any quality of negative desired from a wide range of exposures by simply varying the time in the two solutions. A long immersion in No. 1 and shorter time in No. 2 tends to give hard, brilliant negatives; while increasing the time in No. 1 and giving a longer immersion in No. 2 tends to flatness and softness such as one would desire with a contrasty subject.

Enlarging by Reversal

One of our local amateurs has been experimenting along the lines of making enlargements by enlarging upon bromide paper, reversing the image, rendering the paper translucent and then printing the enlarged results therefrom. While his results are not as yet as perfect as might be wished, they show promise; and, as the plan is one that has been described in the foreign journals as quite successful, he will no doubt achieve success. As others might wish to try the process, a few simple instructions are given, instructions such as were given in the papers referred to. Ordinary bromide paper of a fine but not glossy surface and of a light weight is exposed as for an ordinary enlargement, after which it is developed and so on in one tray throughout in order that no handling of the surface may take place. The developer is the ordinary amidol one, its action being allowed to continue about five minutes after the image becomes fully visible, after which the developer is poured off and the print rinsed in three quick successions of water. This done, the water is drained from the tray, leaving the print lying in the bottom thereof, the two being brought into daylight for an exposure thereto of about time enough for the highlights to acquire a rosy tinge, passing on to a blue tone, meaning that the exposure to daylight is too long for best results. Weak daylight, diffused, requires from forty-five to sixty seconds. The next operation is to remove the developed image, and this is best done by mixing equal parts of a ten per cent solution of potassium bichromate and one of nitric acid, then diluting the mixture with an equal bulk of water. This dissolves out the image, and when only a faint yellow outline remains, the print should be rinsed twice and placed in a ten per cent solution of soda bisulphite lye, where the yellow tinge disappears, leaving only the heavy shadows visible. Following this, a good washing in a safe light for five minutes prepares the print for the final development, which is achieved in the same developer as first used. Fixing and washing as usual completes the process, except for the making translucent of the print. This can be done in several ways; rubbing the back with a tuft of cotton saturated with ordinary coal oil or kerosene, followed by pressure under a blotter to take up the surplus, being the method employed. The work is most interesting.

Cleaning a Lens Mount

To understand what one is doing, it should be remembered that the mount originally was highly polished and then given a coating of protecting lacquer. With use, this coating becomes scratched and worn and the brass thereby exposed becomes discolored and gives the whole a mottled and unpleasant appearance. Using ordinary methods of polishing does not seem to improve matters much because there is produced only a new form of variegated surface as the exposed brass is polished and the lacquered portions retain their original color. This damaged coating of lacquer must first be removed, and that is best done with some caustic potash or soda dissolved in alcohol and applied with a brush. Hard scrubbing will be necessary, after which a good rinsing must be given. The next thing is to polish the surface well with some good compound or powder, bearing in mind that if a paste is used, the grease must be finally thoroughly removed by a good wash in soap and water. This done, re-lacquering is all that is required. Paint stores will supply the proper solution for this or one can dissolve a good grade of shellac in alcohol, heat it to clear somewhat, and then apply slightly warm, with the mount also warm. Ordinary negative varnish can be used, but it is not so satisfactory.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Flexible Ruby Screens for the Darkroom

A flexible color screen, and one which is quite unbreakable, is a thing which should have its uses, and in the current number of *Wilson's Photographic Magazine* James Butt describes how he has made one. Not only is flexibility obtained, he observes, but there is also considerable strength, the screens stand a great deal of handling, while tearing them is out of the question. The material is gelatine with a metallic support.

The gelatine used must be of a very clear variety, Coignet's Silver Label will meet this requirement. An ounce of the gelatine is soaked in ten ounces of water until quite soft. It may be allowed to stand for an hour to advantage, when the vessel may be placed in hot water and the contents stirred with a spoon until the gelatine has completely dissolved. The next thing is to add slowly, with rapid stirring, one ounce of alcohol.

A strip of metallic mosquito netting, sold at every hardware shop (that is, in the United States), is then taken and cut to a convenient width. The gelatine being poured into a warm dish, the mosquito netting is drawn slowly through the gelatine while it is in a warm condition. The strip is then reversed, waved a few times in the air, when the gelatine will set, forming myriads of little squares of transparent film, covering the whole of the netting.

As soon as the gelatine has set well, the strip must be passed through a bath of formalin, consisting of one ounce of formaline to twenty ounces of water. After being drawn through this bath half a dozen times, the strip may be pinned up in a cool place to dry, when the gelatine will become quite insoluble.

All that has to be done now is to prepare a bath of aniline dye of a deep ruby color, made by dissolving a small quantity of rosaniline in water and placing the dried strip in the dye. The gelatine will quickly absorb the color, and may then be suspended to dry by the use of a pin at one corner. As soon as the drying is complete the flexible ruby film will be ready for use.

These films may be dyed any color, orange, or yellow, or a dark green.

It may be asked, why not add the dye to the gelatine in the first place? This has been tried and does not answer. As soon as the dyed film is placed in the formaline, the dye is extracted and the color becomes weakened.

Alum must not be used in place of the formaline, or should there be a trace left in the gelatine the color of the dye becomes changed. If it is found that the ruby dye in the gelatine film is too light in color, two or three thicknesses may be used.

There are other uses to which such prepared wire netting might be put. This pliable, non-inflammable material might be used in place of glass, without the use of dyes of any kind. The prepared netting, it will be observed before the dye is applied, has the appearance of a celluloid sheet as far as its transparency is concerned; but for its resistance to ignition and its non-breakable quality, Mr. Butt suggests that it might be used for a wind shield in motor cars.

Individualized Autochromy

One of the most practical lectures delivered at Perth during the meeting of the Photographic Convention was that by Mr. E. A. Biermann, of Birmingham, who has worked with the autochrome plate from its very first introduction. Mr. Biermann has not regarded the makers' instructions as the law of the Medes and the Persians, but has set himself to modify them both with regard to exposure and to development, as his own experience seemed to demand.

His method of exposing he describes as practically a perfect one. The standard exposure for an autochrome plate in the case of an ordinary view taken in bright sunshine is one second at f-8, and while this is useful as a working rule, the moment one stops down in order to get depth of focus, or for any other reason, things tend to get out of hand.

Mr. Biermann has got over the difficulty by working out a table of exposure times in accordance with the intensity ratios, and has found that for each step of the exposure scale the ordinary multiplying factor of two ought to be increased by twenty-five per cent. Thus, instead of merely doubling the exposure for each diaphragm, he multiplies it by two and one-half, and finds, of course, that the difference between the results thus obtained and the actinometer readings is very considerable. If the exposure is one second at f-8, and he stops down to f-11, he gives, not two seconds' exposure, but two and one-half seconds, and if stopping down to f-16, he multiplies again by two and one-half, giving six and one-quarter seconds, and so on.

For development he always uses quinomet, but finds it advisable to vary the strength of one in four ordinarily recommended, and also the development time of two and one-half minutes. The ordinary procedure is quite safe if there is no very bright lighting in the picture, and the exposure has been quite correct. But for a plate exposed in strong sunlight, development in one in four quinomet for two and one-half minutes may give a hopelessly spoiled result. Mr. Biermann follows the plan of graduating the density of his developer from one in four down to one in ten, or, sometimes, one in twelve. He never uses one in four unless he has been exposing on an interior, or, if out of doors, then in a poor light. His procedure with regard to development time is to take the time of the first appearance of the image, square it, and multiply by four. The result gives the total development time.

For example, if the image appears in six seconds, having had a long exposure, the total developing time should be two minutes twenty-four seconds. The times may be set out in this way:

Exposure.	First Appearance.	Total Time.
10 seconds	12 seconds	9 minutes 36 seconds
20 seconds	10 seconds	6 minutes 40 seconds
40 seconds	6 seconds	2 minutes 24 seconds

Mr. Biermann showed a large number of results, some of them dating back as far as 1908, and their excellence certainly bore out the claims of his individualized methods.—*Amateur Photographer.*

The Proper Mixing of Solutions and Chemicals

A contributor recently drew attention to the importance of properly mixing the developer before use, and his suggestion was valuable because many negatives are defective to a far greater extent than is suspected, owing simply to the neglect of proper mixing. In scientific photographic work, where results have to be critically measured in a photometer, the ordinary methods of the photographer are quite useless, for the plate will be full of easily measurable inequalities, due solely to imperfect mixing. In the case of a two-solution developer, for example, the usual method is to put, say, one ounce of solution A into a measure, add an ounce of solution B, with perhaps a few drops of ten per cent potassium bromide, and then fill up with water to the desired quantity. The result is then assumed to be mixed, and is poured over the plate in the dish, though, as a matter of fact, nothing like true mixture exists or can exist for several minutes after development has begun. Some parts of the plate will then start development long before the rest, while other portions will be locally restrained. The results may not be apparent in an ordinary negative, because the subject details will hide the defects, but a uniformly exposed plate lightly developed will show the inequalities quite readily. Some more careful workers try to insure perfect mixing by pouring the developer backwards and forwards between dish and measure, or between two measures, but while this helps mixing, it also accelerates the oxidation of the developer, and some developers are extremely sensitive to the oxidizing effects of air. It also leads to the formation of air-balls and spots on the negatives.

The only way to insure perfect mixing with safety is to use a proper mixing measure. This is a tall, cylindrical measure fitted with a stopper. One holding just the amount of developer required should be selected. The graduations enable one to add the right proportions of each of the ingredients with much greater accuracy than is possible with the ordinary conical measure, and when all are put together the stopper should be inserted. Mixing is then accomplished, not by shaking the measure, which aerates the developer and produces a plentiful stock of bubbles, but by gently reversing the measure several times. The measure being nearly full, only one large bubble of air is formed, and this traveling steadily up and down the measure produces perfect mixture more rapidly than is possible in any other way. If the measure is too big, there is too much air, and the solution splashes up and down, and gets oxidized; therefore several measures should be procured, each of a convenient size. Such measures are cheap, and can be obtained through any dealer. If graduated in metric measures, practically any size required is available. Some firms who specialize in chemical glassware can also supply them graduated in ounces, though we believe the different sizes obtainable are rather limited.

Another advantage of these stoppered measures is the fact that the solutions can be kept in them as safely as in stoppered bottles, and it is always advisable to let a solution stand for a few minutes after mixing so as to permit time for diffusion to bring the mixing process to a perfect stage. The mixing process may disperse the several ingredients throughout the whole bulk of the solution, but if a little time for diffusion is not allowed, the distribution of the different ingredients may be somewhat streaky and not quite uniform. This may be seen when a little very strong hypo solution is diluted with water. First the hypo and the water are quite distinct. Mixing distributes the one throughout the other, but still the heavy hypo solution can be distinguished in the form of oil-like streaks in the water, which streaks only disappear after a few minutes' standing. It should be noted that violent shaking does not materially aid mixing. It rather hinders it by creating whorls and vortices that last a long time. Gentle stirring with a rod is more effective than violent shaking, though the natural tendency of most people is to put as much vigor as possible into the mixing process.

The mixing of liquids by the aid of a big air bubble passing up and down a long tubular measure is a dodge well known to chemists, who also have a peculiarly effective method of mixing dry chemicals. Naturally only powders can be mixed intimately, and crystals must be well crushed before attempting the mixing process. The various ingredients are roughly mixed together in a heap in the center of a large piece of paper, and then by lifting two opposite sides of the paper alternately the powders are caused to roll together backwards and forwards. The process is then repeated by lifting the other two sides of the paper, so that the powders roll in a direction at right angles to their first one, and a very few repetitions of the process produce about as perfect a mixture as is possible without much more elaborate appliances.

Another method of mixing solutions that we sometimes employ involves the use of a tall measure and a mixing funnel, the latter being simply an ordinary glass funnel with the stem bent at right angles, so that all fluid passing through it strikes the side of the measure and flows down the glass. The various fluid constituents of the solution are mixed together and then poured through the funnel into the measure three or four times. Mixture is fairly rapid, and no air bubbles are formed. It is, however, hardly a convenient method for developers, with which the stoppered tube measure is far the best expedient. The necessity of careful mixing in the case of developers can perhaps be better appreciated if we consider for a moment the conditions that prevail when bromide is added. It needs no argument to show that a few drops of ten per cent bromide solution cannot possibly become instantaneously distributed throughout, say, half a pint of solution, and yet the ordinary method of mixing tacitly assumes that this is the case. Obviously the process must take time, and if we make no endeavor to mix properly, the time really required may be fairly long.—*British Journal of Photography.*

The Equal Illumination of the Plate

One of the advantages offered by modern high intensity lenses is that it is much easier to obtain equality of illumination with them than with less rapid lenses without unduly prolonging exposure. If a lens of somewhat wide angle is being used at an aperture of f-8 there is considerable falling off of illumination, especially noticeable at the corners. This is due to the lens tube cutting off a large proportion of the oblique rays. However, if a lens of f-4.5 aperture is employed, stopped down to f-8, the rapidity is the same, and, the lens tube being a good deal bigger diameter, fewer oblique rays are intercepted. To put the matter in a nutshell, practical workers have always found that stopping down equalizes central and marginal illumination. The high intensity lens may be stopped down very considerably and yet be as rapid as the ordinary lens working at f-8. Thus, for certain copying work, a great saving of time may be effected, and the same applies to interior exposures. From the optical point of view it is possible that a higher degree of correction may be obtained with a lens the maximum aperture of which is f-8 than with one working at f-4.5, but even if this is so, and it by no means follows, the difference when both are being used at f-8 is so slight as to be negligible. Many photographers, we find, labor under the impression that a lens of f-4.5 or such large aperture is not of service as a wide angle. In fact, at a medium aperture it serves excellently, and for the reason we have given is superior, in this respect also, to one of smaller maximum aperture.—*British Journal of Photography.*

Lens Connections

The following excerpt from a letter to *Photography and Focus* voices a want I have long felt. I habitually use a Zeiss Protar lens and constantly have occasion to change its parts; furthermore, I take on and off a light filter (sometimes more than one), all of which are attached by screws of great fineness and great depth. The loss of time often means loss of subject.

"Is it not time also that we had a better and quicker method of attaching and detaching the front and back portions of lenses, instead of having from one-fourth inch to one-half inch of screwing to do? Why not a bayonet joint, similar to the Kodak cut film developing tank joint? With such a joint, a scale for double extension, a view finder to suit the half lens, and a clip to hold the unused portion of the lens, we should hear less from 'The Bandit' re too much in amateurs' photographs, as one would not hesitate to use the double extension more often.

"Yours, etc.,
"MONKSEATON."

The Surface for Trimming

Opinions differ as to the best surface on which to trim prints. The old handbooks used to recommend either a sheet of plate glass or zinc; but few photographers would be likely to employ either today. Zinc soon gets scratched and useless, or at least undesirable; while both zinc and glass are open to the objection that they are very severe on the edge of the cutting blade. On glass, moreover, unless something is done to prevent it, the print slips about and makes it necessary to use great care to avoid making a cut where it is not wanted. To prevent this, smearing the glass with mountant and letting this dry has been suggested; while with the same object some workers keep an old negative on which to do the trimming, using the film side, of course. A better plan than either is to use a sheet of linoleum. This blunts the edge of the knife pretty quickly, and so the cut should not be carried further than is actually necessary to trim the print; but there is no risk of turning the edge, as there is with glass or metal. A sheet of cardboard may be used for the same purpose, or a smooth pile of newspaper; but linoleum seems to offer more advantages than any.—*Photography.*

Mounting Prints On Wood

For certain purposes it will be found very effective to mount a print not on a card but on a wooden panel, a well-toned silver print being as suitable as anything for this process, although some excellent results may be obtained by a judicious selection of carbon tissues. The panel should be finished dead smooth with fine glass-paper, and may then be stained, if this is thought to be necessary. Any of the ordinary mountants may be used; but glue made not with the ordinary glue but with the white gelatine sold by oilmen, used very thin and very hot, is perhaps the best of all. It will be found a wise precaution against warping to glue a waste print on the back of the panel in exactly the same way as the other print is glued on the face. When the glue is quite dry, either the print may be left as it is, or the whole front, picture and wood, may be varnished. If this is to be done, it should first be sized, for which purpose the glue, thinned down, will serve. It should be just warm enough to be liquid. When this is dry, one or more coats of white hard or of oak varnish may be given. Prints mounted in this way can be washed with a wet cloth and need no glass in front of them. The varnish also helps to enrich the shadows and gives them depth.—*Photography.*

AS EVENING APPROACHES
By ROY J. SAWYER

CLUB NEWS AND NOTES

Club Secretaries and others will oblige by sending us reports for this Department

Unique Photoverse Club

Amateur photographers will be greatly interested in a brand new club just formed, which is unique in many ways, some of them being that it is without dues, meetings or obligations. It is called the Photoverse Club and its purpose is to inspire men, women and children—more particularly, perhaps, young people—with a fervid zeal for amateur photography and poetry combined. Its founder is James J. Hannerty, the Idea Man, who is celebrated for his many quaint verses tacked on to everything imaginable, from high art to lithography. Mr. Hannerty is a picturesque character, with poetic white hair and sky-blue eyes, and his enthusiasm is such that he believes this newly-born club will become as widespread as the Nation. He was the "Idea Man" of "Old Vienna" at the Chicago Exposition and also at the St. Louis World's Fair. Just now he is at the photography booth in the Country Life Permanent Exposition, which is situated high up in the Grand Central Terminal, New York, and is absolutely free to the public.

To become a member it is only requisite to send in some favorite camera print, and arrangements may be made by the amateur photographer to have the original couplets and verses composed to fit the subject. These are done by hand, on a 7x9 mount, and returned to the owner of the photograph. This Hannerty idea is especially appealing to romantic young people who desire to combine poetry with art, and to decorate their dens with autograph pictures. Also the conception is a pretty one for birthday and holiday gifts. All the work is purely hand work, and the members presumably will spread the enthusiasm for a higher conception of photography throughout the country.

A New Oakland Club

The Anemones, a Hobbyist Club, Rooms 11 and 12, 1010 Broadway, Oakland, California, has formed a Photographic Section, with Doctor John F. Killeen, formerly Curator of the Sutro Baths Museum, as President, and Oliver G. Beardslee as Secretary. It will be the aim of the Section to teach their members to do their developing and printing, assist those who desire to fit up dark-rooms by helpful suggestions, and in general be of all assistance possible in the matter of expert advice and assistance in every line of photographic work. Information can be obtained by addressing either of the gentlemen named at the address given, and we would advise our trans-bay readers to investigate the requirements of membership in an organization that seems so well fathered and so well inclined.

Chicago Camera Club

The Chicago Camera Club extends a cordial invitation to every interested amateur to attend its Thursday evening meetings at its rooms, 329 Plymouth Court. Copies of the bulletin, announcing the programs, will be mailed to anyone sending his name and address to the Secretary.

Summer is unquestionably the amateur photographers' season, as the consumption of films and other supplies during this time will attest. The cameras that were unpacked for the vacation time are, in many cases, now being returned to the shelf. But to him who has looked beyond the first operation and has discovered that its pleasures are but little compared to the delights to be derived from after processes and manipulation of the negative, the long winter evenings when indoor work is comfortable bring no regrets.

For the average worker, the lack of suitable place, time, or the necessary funds prohibit the installation of elaborate equipment in the home. But there is a way by which all these advantages may be enjoyed under most desirable conditions, at a minimum cost and with no trouble or inconvenience, and this is one of the advantages enjoyed by the members of the Chicago Camera Club.

The association in the workroom with a large number of kindred spirits can not fail to be a source of considerable information and a great help to the ambitious student of photographic processes. Thus the Club not only provides a place to work, but also teaches how the work can best be done. For the camera enthusiast who has been filing his negatives after making a contact print, there are surprises in store, as he learns the effect of the different methods of treating and handling his negatives. There is also maintained at the Club a portrait studio equipped with modern studio cameras, with Cooper-Hewitt studio lights and all necessary appliances for portrait work by day or night.

The Club Rooms are open at all hours and visitors are always welcome, and especially so at the Thursday evening entertainments.

Prizes for Photographs of Large Trees

Two prizes of one hundred dollars each are offered for photographs of large, wild, native trees in the United States, by two members of the American Genetic Association who are interested in forestry and wish to secure data along somewhat novel lines. These prizes are to be awarded as follows:

One hundred dollars for photographs of the largest nut-bearing tree. This includes chestnuts, oaks, walnuts, butternuts, pecans, etc.

One hundred dollars for photographs of the largest shade or forest tree, not nut-bearing. This includes such trees as the elm, beech, poplar, tulip-poplar ("yellow poplar" or "tulip tree"), etc.

Photographs of conifers will not be considered.

All photographs must be submitted to the *Journal of Heredity* before July first, 1915, and will become the property of the Association. Photographs must be taken by or under the direction of those who send them in, and not purchased from professionals or collections. Competition is not confined to members of the American Genetic Association, but is open to the public.

Photographs must be on glossy paper, not smaller than 4x5 or 3¼x5½ inches, and must be of sufficient excellence to allow reproduction. Photographs in which the tree is so small that its details can not be made out can not be considered. As much information as possible should be furnished about the tree in question, and exact identification is particularly necessary. For this reason the photographer should send a branch with leaves and, if possible, flowers or nuts, in order that the Association may identify it. The measurement of the tree must be given in detail. In making it the only method which may be followed is to take the circumference of the trunk at five feet from the ground. It is desirable that the full height of the tree and spread of branches, as well as the girth, should be stated; if they can not be measured exactly, they should be estimated. Photographs should, when possible, contain some object, such as a human figure, or a horse and buggy, which will aid in giving a realization of the size of the tree; but such figure should be beside, not in front of, the tree. If there are other trees growing beside it and cutting off part of it these other trees should be included in the picture. A second photograph of the same tree should be sent in, showing the trunk only with a little foreground. Each contestant is thus required to send in two photographs of the same tree, one showing the entire tree and the other the trunk only. Contestants may send photographs of as many different trees as they like. It is immaterial whether the tree is shown with full summer foliage or defoliated in winter condition.

The council of the American Genetic Association, 511 Eleventh Street Northwest, Washington, D. C., will be glad to furnish information on any problem connected with these offers; it will judge the photographs submitted and reserves right to decide any disputed points. Only the two capital prizes will be given, but all other noteworthy trees will be mentioned in the final report. The prizes are offered by Charles Deering of Chicago and W. A. Wadsworth of Geneseo, New York.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

James B. Warner, Director Stereoscopic Division, 413-415 Call Building, San Francisco.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

George E. Moulthrope, Director Lantern Slide Division, Bristol, Conn.

Edward B. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

STATE SECRETARIES.

Answers to inquiries concerning membership and membership blanks will be supplied by the State secretaries. Album directors are at present acting as State secretaries in such of their respective States as have as yet no secretaries.

California—W. E. Thomson, 3211 School St., Fruitvale, Oakland.
Idaho—Eugene Clifford, Weippe.
Kansas—H. H. Gill, Hays City.
Missouri—J. F. Peters, Room 210, Union Station, St. Louis.
New York—Louis R. Murray, Ogdensburg.
Oregon—F. L. Derby, La Fayette.
Texas—Emmett L. Lovett, Roby.
Wisconsin—F. W. Freitag, 500 Monument Square, Racine.
Mississippi—George W. Askew, Jr., 211 34th Ave., Meridian.

NEW MEMBERS.

3962—O. R. Jones, W2315 Sinto Ave., Spokane, Wash.
Class 3.

3963—Ernle B. Borham. Box 237, Gisborne, New Zealand.
Post card and 4¾x6½, printing out and bromide papers, of Reflex work; for the same. Class 1.

3964—Walter Giger, 808 E. 11th St., Columbus, Neb.
Class 2.

3965—Stockton Veazey, Great Falls, Mont.
3¼x5½, 4x5 and 5x7, various papers, of outdoor subjects, animals, children, scenery; for the same. Class 1.

3966—Ivan L. Osterhout, 628 Deakin Ave., Moscow, Idaho.
Post cards, developing papers, of miscellaneous subjects; for the same. Post cards only. Class 1.

3967—Julia Morrison, Box 624, Rainier, Ore.
Up to 8x10, various papers, of scenery; for the same and anything of general interest. Post cards only. Class 1.

3968—Mrs. Theo. C. Cassady, 2231 Walnut St., Bellingham, Wash.
4x5, developing paper, of landscapes, buildings of interest, park views, views of falls, etc.; for anything of general interest. Class 1.

3969—John B. Pinder, Box 138, Springside, Sask., Canada.
3¼x5½, developing papers, of all kinds; for the same. Class 1.

3970—A. E. Bass, Danielson, Conn.
Class 2.

3971—U. G. Stewart, Box 343, La Cygne, Kan.
Post cards and 5x7, developing paper, of cyclone destruction, country and town views; for anything of general interest. Class 1.

3972—John L. Fortune, care Postoffice, Atchison, Kan.
5x7 and post cards, developing papers, of landscapes; for the same and any subject of general interest. Class 1.

3973—O. H. Fuller, 407 S. 2d St. W., Cedar Rapids, Iowa.
5x7, various papers, of landscapes; for almost any landscapes or city buildings. Class 1.

RENEWALS

1039—Harrie A. Holmes, Greenland, N. H.
Home portraits, views, buildings and genre; for portraits, pretty girls, bathing, decollete, nude, semi-nude and figure studies. Class 1.

1672—A. H. Fenn, 15 Colony St., Meriden, Conn.
Unmounted stereo views of natural scenery; for the same. Class 1.

2404—A. E. Fyall, 40 Hastings St. West, Vancouver, B. C., Canada.
Class 2.

3499—Max Gartner, 42 W. Dayton St., Pasadena, Cal.
2½x4¼ up to 5x7, developing papers, of public buildings, parks, bush gardens, residence views and hotels; for views of any kind and with anyone. Have received some post cards with no name or address on them; will be glad to send prints in return upon receipt of the name and address of those so sent. Class 1.

3708—Herbert L. Sackett, Lewistown, Mont.
Class 2.

3711—J. F. Rambo, 1235 W. 2d St., Pomona, Cal.
Class 2.

3719—P. F. Jansen, Crowley, La.
Class 2.

3742—S. H. Nichols, Hayward, Cal.
Lantern slides of mountains, waterfalls and river scenery; for slides of any class. Class 1.

CHANGES OF ADDRESS

3330—Anthony J. Buchal, White Bear, Minn.
(Was Olivia, Minn.)

3767—Joseph P. Connolly, 10 Allen Place, Columbia, Mo.
(Was Cleveland, Ohio.)

3818—George S. Dodge, care Central Y. M. C. A., Albany, N. Y.
(Was Waits River, Vt.)

3829—Archie Gilfillan, 1441 Page St., San Francisco, Cal.
(Was 1536 Haight St.)

3902—L. R. McChristy, Burlington, Kan.
(Was Lewis, Kan.)

3909—R. W. Franklin, care D. Currier, Res. Eng. P. G. E. Ry., Lac La Hache, B. C., Canada.
(Was Kamloops, B. C., Canada.)

3952—J. R. Renner, 4335 Highland Ave., Kansas City, Mo.
(Was 1334 Charlotte.)

OUR BOOK SHELVES

"How To Make a Studio Pay"

The above is the title of a handsome cloth-bound book of some one hundred and twenty-five pages replete with advice and suggestions, from the pen of Frank Farrington, the able contributor to the pages of *Wilson's Photographic Magazine*. Quoting from the introduction by Ryland W. Phillips: "Mr. Farrington has placed in our hands a valuable book, every chapter of which is well worth our careful study. He has given us an analyzation of the business side of our daily work; he has attempted to show us not only "How to Make a Studio Pay" but how to make our studio pay better. I say this because I believe there is not a photographic establishment in existence that has reached its possibilities in profit taking."

"We find, on reading through these pages, that Mr. Farrington has talked from the standpoint of the small photographer, but on closer study one can easily see that his principles and ideas are applicable to all kinds of studios, and can be used in one form or another in the large and small business alike."

The book is published by the Edward L. Wilson Company, Incorporated, 122 East Twenty-fifth Street, New York. Price one dollar net, postpaid.

"Tell-Me-Why Stories About Animals"

The above is the title of a charming book, the latest addition to the "Tell-Me-Why" series that has been found so popular with the young, particularly those of an inquiring mind. The author, C. H. Claudy, is well known to all our readers as an entertaining and informative writer on photographic subjects, and they will not be in the least surprised to find that he has the particular "knack" of employing the natural method of teaching and entertaining young readers without the entirely too common fault of writing down to them. As "Old Pops" he answers the eager questions of his little son, telling him all and sundry about the origin and habits of the domestic animals and of the hardly less familiar creatures of the woodland, going on to explain quite fully how their history can be traced back to the wild animals of the great forest and jungle of years agone. The volume is a handsome one, well illustrated by Thomas Wrenn, and published by McBride, Nast & Company, 31 East Seventeenth Street, New York City. Price, one dollar and twenty-five cents; postpaid, ten cents extra.

"Bulgaria and Her People"

The author, Professor Monroe, was in Bulgaria during the recent wars in the Balkans, and the intimate knowledge that this experience gave him, added to his previous study of this most interesting country and its people, qualifies him to write most interestingly thereon. This, his latest work, is in his usual clear and charming style, a style that is maintained throughout the book without the least loss in the matter of authenticity in dealing with the geography, the history, the peoples, the institutions, the commerce and the education of the country. While only recently liberated from Turkish rule, Professor Monroe joins with the other few foreigners who have studied the inhabitants in affirming that they have outdistanced the Greeks, the Roumanians, the Servians and the Montenegrins in much that makes for social progress and civilization. All in all, while the least known in Europe and this country, the Bulgars are perhaps the most interesting of the peoples of the Balkan peninsula, and this book is the most recent if not the only one available for a study of this interesting subject. Those who remember the finding of the Carnegie Commission will find much to interest in the author's personal experiences as related in this book. Any reader will find it an absorbing and instructive volume. Published by The Page Company, 53 Beacon Street, Boston. Handsomely bound, with seventy-one illustrations; boxed, net, three dollars; carriage paid, twenty cents extra.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

H. A. Parker, of Pasadena, has a new Paige car and Walter Gerlach, his motion camera operator, has a new Buick. Both are some drivers.

L. E. Jarvis, of Jarvis & Prinz, Pasadena, went to Hermosa Beach for three weeks of mackerel fishing. I am told that most of those caught were salted.

A. R. Hromatka is now with Cline & Cline, of Los Angeles, in the Sixth and Spring Streets store. He has a very fine department there.

Earl V. Lewis, of Los Angeles, has just completed a bungalow on his Bear Lake property. Expects to spend his next ninety-nine summers there, as that is the period covered by his lease from the government. (There is a radium spring on the property.)

Ralph S. Hawkins now has charge of the Kodak Department at the Broadway Department Store of Los Angeles.

Since the baseball season closed, Merick Reynolds, of Los Angeles, has raised a nine of his own—on his upper lip.

W. H. Schulze, Jr., is now interested with Frank Aston at San Luis Obispo.

C. C. Green, formerly of Marysville, has opened a very pretty ground-floor studio in Salinas.

The Y. M. C. A. has taken Dr. Merriman, of Hartsook's, into the fold. Thought the order was called a Young Men's Christian Association. The writer should stand a good chance if the Doctor can make it.

Norman G. Seller, of Hirsch & Kaiser's, has bought a home in Crocker Amazon Tract. Five thousand down and a thousand a month, for life.

John Smith is back in his old position at Hirsch & Kaiser's and will be pleased to again see all his friends.

Home Portraiture

With the advent of winter, most amateurs will devote more time than before to home photography. The charm of home photography is unending and good results are so easy with the Kodak Portrait Attachment that the novice should meet with success from the start. And it only costs fifty cents to buy this dependable little attachment. Pictures at close range, impossible with the ordinary lens equipment, come within the scope of every Kodak or Brownie when the Kodak Portrait Attachment is slipped on over the regular lens. Head and shoulder portraits, pictures of household pets, of flowers, of favorite articles of furniture—why, there are picture possibilities in every nook and corner of your home and they are all fair game for the Kodak Portrait Attachment.

Illinois College of Photography Notes

The College Camera Club gave an old-fashioned Halloween party at their rooms on Halloween eve. The students, faculty and other guests were handsomely entertained.

Professor Latshaw is building a handsome new bungalow next to Professor Killen's home and expects to occupy it in about a month. Professor Fisher is also building a very cozy and pretty bungalow, to be occupied by Professor Dishinger, on the lot adjoining his home.

The College received pleasant calls from Kelsey Gardner of 1913 and George Blakesly of 1898 last month. Mr. Gardner is employed as photographer at the University of Illinois, and Mr. Blakesly is working at photography in connection with the Y. M. C. A. Chautauquas throughout the country.

An Interesting Handbook

The Prosch Manufacturing Company are sending out a small but very instructive and informative handbook that is well filled with suggestions covering the use of flashlight apparatus and other products, including smokeless, electric and hand flashbags, envelopes, flash cartridges, instantaneous flash powder, their electric shutter and flash attachment and the ordinary flash lamps for pure magnesium. Our readers should send for a copy of this valuable little booklet, if they are at all interested in flashlight work, and even those who are not will find therein much to interest, and the simplicity that the Prosch apparatus creates is rather inclined to cause an interest where none may have existed. Copies can be obtained by addressing Prosch Manufacturing Company, 205 East Nineteenth Street, New York City.

International Exposition of Photographic Arts and Industries

This will be held at the New Grand Central Palace, New York City, March twenty-seventh to April third, 1915, under the auspices of the Photographic Dealers' Association of America, in connection with its third annual convention. Quoting from the announcement just to hand: The new officers of the Association have succeeded in not only arranging for a 1915 convention, but for the First Annual International Exposition of the Photographic Arts and Industries.

The principal factor considered in making these arrangements was to bring the Dealers and Manufacturers of photographic apparatus and materials in even closer contact than ever before and at the same time to make it possible to invite the general public to the first Exposition of this kind ever held in this country. In and within a radius of a few miles from New York City there is a population of over seven million people, and in the same territory it has been conservatively estimated there are at least five hundred dealers in photographic supplies. It will therefore be readily seen that New York City is an ideal location for an exposition of this kind.

The Exposition will consist of elaborate exhibits and displays of the merchandise of the Manufacturers of photographic apparatus and materials from all over the world, as well as complete displays of merchandise closely allied thereto. The general admission fee will be fifty cents, but at least one hundred and fifty thousand tickets of admission will be given to the exhibitors for distribution to their customers or in such other ways as they may see fit, thus an attendance of at least that number is assured.

To attract attention to the convention and exposition, and as well increase the attendance of all classes of photographers and those interested in the art from all sections of the United States, working exhibits will be in continuous operation while the exposition hall is open, thus giving those in attendance the opportunity of seeing for the first time the process of manufacturing the products in question. As a further incentive to amateur and professional photographers, prize contests will be held and suitable prizes awarded for the best exhibits of photography in all its branches. In addition to these awards a number of manufacturers have signified the desire of giving special prizes for distribution by the convention committee. Full particulars as to the prize print contests, etc., will have wide distribution through the photographic press and our readers will be kept advised.

Applications for exhibit space should be made at once direct to the International Exposition of Photographic Arts and Industries, New Grand Central Palace, New York City, upon receipt of which diagrams of floor space, contract blanks, etc., will be furnished gratis without delay.

Autochrom Plates in All Sizes

A letter just to hand from the Lumiere Jougla Company advises that they have made arrangements to have on hand a complete stock of Autochrom plates, notwithstanding the trouble abroad. This will be good news to many of our readers who have become interested in this beautiful process of photography in the colors of nature, such workers finding it distasteful to return to the ordinary monochrome photography. Nearly all dealers carry Autochrom plates and supplies, or one can communicate directly with the Lumiere Jougla Company, 75 Fifth Avenue, New York, should they find that his wants in that direction are not supplied by his local dealer.

Enlarging Made Simple

Kodak simplicity has extended to enlarging, with the Brownie Enlarging Camera as the result. If you are not acquainted with this enlarging camera, we should advise you to travel downstreet at your first opportunity and have your dealer show you one. You have but to see it to realize that its manipulation is simplicity itself. Exposure may be made by daylight, or, if your house is equipped with electricity, the Brownie Enlarging Camera Illuminator will make it possible for you to do your enlarging when you choose. Results are sure in either case, the illuminator adding the element of convenience.

Free Subscriptions

The New York Camera Exchange have now gotten their new No. 19 Bargain List ready for distribution. It is sent free upon request. In it they make an offer to give their customers, entirely free, a year's subscription to their favorite photographic magazine. They feel that so doing will cause the customer to remember them for the entire twelve months and at the same time increase the circulation of the different magazines, adding to the efficiency of their advertising and helping the entire fraternity. Write for a copy of the new bargain list, addressing New York Camera Exchange, 109 Fulton Street, New York City.

Safety Work

That the welfare work practiced by the Bausch & Lomb Optical Company, particularly the measures undertaken by it to promote the safety of its employes, has exerted far more than a local influence is apparent from correspondence recently received from officials of the Utica Mutual Compensation Insurance Corporation.

In a thorough inspection of the plant, this insurance corporation found more than eighty-five per cent of all machines guarded and declared that to be a much higher percentage than it had found in any other of the plants inspected throughout the state.

The officials of the Utica corporation were impressed with the form of physical examination given its employes by the Bausch & Lomb Company, and requested copies of the forms used in recording the results of such examination for recommendation to other employers insuring with them. Bausch & Lomb Company has expended much time and money during the summer on safety work. A force of men, sometimes numbering as high as twenty, has been engaged in the work of safeguarding machinery at the large plant for the last four weeks, and its task is not yet completed.

A Tripod Now Necessary

You probably take more time exposures in winter than in any other season of the year, and it is for this reason that you should provide yourself with a tripod at once. Too many pictures are spoiled by movement of the camera during exposure, and yet so many amateurs still insist on "taking a chance" and trusting to the steadiness of their hand, whether the exposure be more than one twenty-fifth of a second or not. And yet it is a fact that the average person can not hold the camera absolutely rigid longer than one twenty-fifth of a second. One of the best lines of tripods that we know anything about is that put out by the Eastman Kodak Company. The Kodak Metal Tripod, particularly, is about the last word in tripods. It is so compact that it may be carried easily, it gives a rigid support to the camera, and is in two sizes. It has the added feature of a revolving head, so that the camera may be swung from side to side as desired in composing the picture without altering the position of the tripod.

Battle of New Orleans Pageant

Descendants of the old pirate band who swore fealty to the cause of Jean Lafitte, pirate leader and hero of Byron's "Corsair," are to impersonate their ancestors in the coming "Battle of New Orleans" reproduction. On January eighth hundreds from the Baratarian section of the lowlands of Louisiana are to stand shoulder to shoulder with those who will impersonate the brave Creoles, the Kentucky and Tennessee riflemen, freemen of color, convicts and others.

The Baratarians are extremely proud of the great service done by their ancestors under Lafitte at the original "Battle of New Orleans," and they point with pride to the mention of their bravery in Jackson's General Orders written after the rout of the English invading army. Then, too, they want it known that it was because of their valiant services in the cause of liberty and independence that President Madison granted an absolute pardon to Lafitte's band for their past offenses as "gentlemen rovers."

For a hundred years the descendants of that renowned and feared band have led a life in strict conformity to the rules of society and as fishermen, shrimpers and oystermen have gained their living away from the confinement of civilization. Here they have toiled and married and kept close to their glorious traditions and their patois.

Not only will they show how Dominique You, and Bluche, Pierre Lafitte and the others manned the cannon behind the cotton bale embrasure of Battery No. 3, during the reproduction in the battle pageant, but they will enact several of the scenes of history leading up to the battle which will be preserved in motion pictures by the special committee of the Louisiana Historical Society, which has sole charge of the three-day "Battle of New Orleans" pageant.

The Last Call

December first marks the close of the Ansco Company's five-thousand-dollar Loveliest Women Contest. This leaves you but a few weeks in which to make your final entries. Why not make a special effort to round up as many prospects these few remaining weeks as you have in all the months preceding? Take a look through your old negatives; pick out those that impressed you several months or a year ago as having prize-winning possibilities. Make some new prints of them; give them the very best work of which you are capable, then send them into the contest while there is yet time.

Fifty camera users are going to get cash prizes of fifty to five hundred dollars each. You yourself have just as much chance of walking off with one of these real, spendable prizes as the other fellow.

Remember, besides the chance to win fifty to five hundred dollars, the winning photographs, enlarged to life size and bearing the names of their producers, will be exhibited to the gaze of the entire world in 1915 at the big Panama-Pacific Exposition. Besides this, leading magazines have requested permission to reproduce the winning photographs as soon as the contest is over and the judges have made the awards. Think of the international fame attached to such an exhibit, both for the lovely women and the photographers. Let's go to work with renewed vigor and a determination to make Ansco Company's five-thousand-dollar Loveliest Women Contest one that will live in photographic history for years to come.

The Victor Flash Cabinet

One of our local professionals recently placed an order for six of these, one for his local studio and one each for the five branch studios that he maintains. Buying a new studio in this city, another was at once ordered. They are all to be used in every-day work and the purchaser advises that he does not expect to have any difficulty whatever when engaging new operators on account of their possible lack of experience therewith. Not only are all operators today more or less familiar with flashlight work, but the simplicity of the Victor Cabinet is such that any operator capable of using an ordinary skylight finds no difficulty in producing the best of results at the first trial. In fact, he finds that his present staff of operators are more than pleased with the cabinets and are glad of the relief they afford from the worry occasioned by the making of sittings when the light is failing or unsatisfactory.

Photographic Mountings

This is the title of a handsome catalogue that recently came to our desk, one devoted to the listing of an excellent and attractive line of photographic mounts that are fully described by photographic reproductions and descriptive matter. The catalogue is issued by George Murphy, Incorporated, 59 East Ninth Street, New York, and we would advise our readers to secure a copy in order that they may keep informed on the latest styles of these goods.

Hydroquinone Prices

In a recent letter Charles G. Willoughby, 810 Broadway, New York, advises: "We are glad to tell you that today we are offering Hydroquinone at two dollars and seventy-five cents, our policy being to give everybody a square deal, and when we are able to obtain the goods at the right price, we give our customers the benefit. It might be of some interest to your readers to know that we have been able to reduce the price of this developer."

The Flash for Winter Work

Victor Flash Powder is growing more in demand as winter comes on, and thousands of amateurs are taking up flashlight work as a means of continuing their photographic pleasures during the long, dark days of the coming month. Actino Flash Cartridges are a most convenient means of using this excellent powder and dealers are growing more and more into the habit of recommending it to their amateur customers. It not only is most convenient in use, but on account of the absolute safety of this form, it is eminently suited to the requirements of those who may be a little timid in their first experience with flash powder.

CAMERA WANTS

Advertisements of the above nature shown below will be inserted under this heading at the rate of fifty cents each insertion, for twenty-five words or less; each additional word, two cents extra, cash with order. Those of positions wanted inserted free. No business advertisements accepted.

RETOUCHING WANTED At home; prompt attention given orders received from city or country; moderate prices; seven years' retouching for Arnold Genthe. Mrs. Anna Josselyn, phone Franklin 7799, 1400 Washington Street, San Francisco, Cal.

10x12 GUNDLACH Rectigraph lens, newly fitted with Iris diaphragm; list $60.00; will sell for $25.00. N. C. H., care "Camera Craft," San Francisco, Cal.

WILL TRADE My studio in mining town of 10,000 in Arizona for a studio equally good, located in a good home town in California. Address Lock Box 1063, care "Camera Craft," San Francisco, Cal.

POSITION WANTED By young man in finishing department or dark room in any studio. Can also do view work for commercial photographer. R. La Fontaine, 120 Las Olebis, Daly City, Cal.

FOR SALE 8x10 Cycle pattern camera with No. 12, V11A convertible lens in Volute shutter, case and 6 holders. 5x7 Pony Premo camera No. 7, French lens in Volute shutter, case and 6 holders. B. & L. extreme wide angle lens, series V in Volute shutter in velvet case. Pair 8-inch condensers with front and bellows, with attachment for holding above condensers, 2 film pack tanks, Nos. 2 and 3, 3 developing machines, Brownie Nos. 1 and 2. One type H Cooper-Hewitt lamp. Any reasonable offer accepted. C. A. Krebaum, La Crosse, Wis.

FOR SALE Kodak finishing and enlarging plant with commercial work, conveniently fitted up, ground floor, good location, cheap rent; for quick sale, $300. Write R. G. S., care "Camera Craft," San Francisco, Cal.

SALESMAN Wanted To manage exhibit of high-grade photographic and motion picture apparatus at Panama-Pacific Exposition; ten months' opportunity for right man to make good on commission basis. P. P. C., care "Camera Craft," San Francisco, Cal.

HELP WANTED Steady young woman printer and companion wanted for permanent position; state experience, age, references, salary wanted. Mrs. A. A. Richardson, Bemidji, Minn.

SWAP $66 York cornet, case and all attachments, used three months, for Graflex. Write F. L. Padgitt, Winslow, Ariz.

WANTED TO RENT The only studio in a town of from 1,000 to 5,000 population; state of Iowa or Wisconsin preferred. Address Lock Box 444, Warren, Ill.

WANTED 5-inch f-4.5 lens in Multispeed for 4x5 Hale's or Hall reflecting camera (1/1500 second) or 5x7 Tessar. Hall, Station C, Box 104, Los Angeles, Cal.

STUDIO FOR SALE Old established, well equipped, paying studio, in thriving central California city of 30,000 population; splendid location and fine operating room. Address I. S. F., care "Camera Craft," San Francisco, Cal.

SALE OR EXCHANGE Intern'l Correspondence Schools' course of Spanish, new and complete, including $30 phonograph, records and textbooks; value $60; will sell for $30, or exchange for 3A Special Kodak or 5x7 Turner-Reich lens. W. T. Duvall, Wheeling, W. Va.

FOR SALE 3¼x4¼ revolving back Auto-Graflex with Cooke-Telar lens No. 2⅛ and film pack adapter; cost $156.50; practically new, first-class condition; spot cash, $80. Call or address, Auto-Graflex, 626 Pacific Bldg., San Francisco, Cal.

ATTENTION PHOTOGRAPHERS A modern flat, especially built for photographer, to rent at 427 Presidio Ave., San Francisco; studio is large and best lighted in city; worth looking at; owner will fix to suit. See agent or phone Fillmore 1837. Jesse Miller, 507 Mission St., San Francisco, Cal.

FOR SALE Cooke lens, series IV, f-5.6, 8-inch focus in Iris mount; perfect condition; price $30. George G. McLean, Carpinteria, Cal.

FOR SALE Nicely equipped quick-finish studio in Freeport, Ill.; Cooper-Hewitt light, Voigtlander Heliar lens; reason, have two other studios. Address Chas. E. Voorhees, 702 Sycamore St., Waterloo, Iowa.

FOR SALE Studio in good live Wisconsin town of 10,000; first-class, up-to-date equipment; easy terms; here is a good bargain. Write L. A. C., care "Camera Craft," San Francisco, Cal.

SALE OR RENT Only fully equipped studio in good live Wisconsin town. Address J. S. J., care "Camera Craft," San Francisco, Cal.

FOR SALE Well equipped studio in good country town; extra farming community; four small towns to draw from. Address A. L. Walline, Gowrie, Iowa.

PHOTOGRAPHERS HERE IS A SNAP—In a town of 1,400, railroad center, good farming community, only studio; nearest competition, 15 miles; fully equipped except lens; three rooms, work room, reception room and splendid skylight room; north light; rent $10; Christmas business will more than pay price asked; $150 cash takes it. Address Room 408, 27 E. 7th St., St. Paul, Minn.

FOR SALE A business paying $5,000 a year, Southern California beach town; rent, including four living rooms, only $30; long lease; invoices $1,500; good business in studio and in Kodak finishing; it only takes two people to do the work with my system. Correspondence solicited—show me you mean business. Address B. F. G., care "Camera Craft," San Francisco, Cal.

FOR SALE My photo studio with living rooms upstairs; county seat; less than 50 miles from Twin Cities; rich territory, no competition; this is a good place for someone who wishes to locate in a clean, up-to-date town; wish to sell at once; price $3,250; must have $2,000 cash, rest on easy payments. Address Lock Box 41, Buffalo, Minn.

FOR SALE You can buy one of the most up-to-date studios in the Pacific Northwest in a beautiful little city of 10,000 at a decided bargain, if you have $500 to pay down; balance easy; the coming holiday trade will offset most of the price; competition is light, climate hard to beat; other interests demand my time. Address Box 402, Coeur d'Alene, Idaho.

WANTED AT ONCE To buy or rent good studio in good town. Write R. G., care "Camera Craft," San Francisco, Cal.

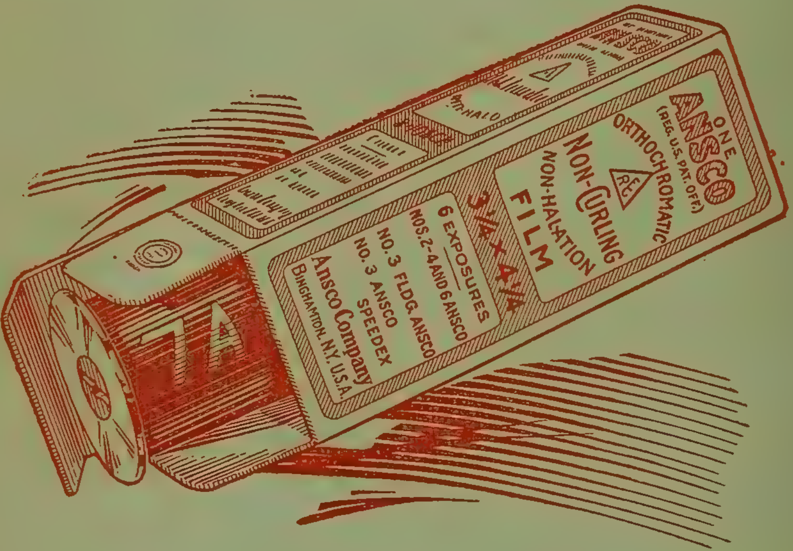
XXI No. 12 DECEMBER, 1914 Price, 10 Cent

CAMERA CRAFT

SAN FRANCISCO
CALIFORNIA

Ansco Film

The article and invention for which many millions were paid as a result of the decision handed down by Judge Hazel, in the United States District Court of Buffalo, which decision was affirmed by the United States Circuit Court of Appeals.



The Ansco non-curling color value film costs no more than ordinary film.

Be sure to load your camera with the original, genuine and perfect film.

Ansco Company
Binghamton, N. Y.

A GOLDEN GIRLIE
By CLAUD H. SIMSON

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY
FAYETTE J. CLUTE, Editor
CALL BUILDING SAN FRANCISCO CALIFORNIA
VOL. XXI DECEMBER, 1914 No. 12

PHOTOGRAPHY, PHOTOGRAPHERS, PHOTOGRAPHS.

WRITTEN AND ILLUSTRATED BY
CLAUD H. SIMSON.

Photography today is firmly established in its position, an enviable one, and one independent of any other. Photography is one of the greatest achievements of the human mind, one of the marvels of modern times. It has done much to revolutionize our ideas along many lines as well as to alter many of our methods. By its aid, the scientists have been enabled to successfully grapple with innumerable otherwise elusive problems. Realizing this, we should, particularly those of us who are photographers, be proud of the fact that photographs are photographs, possessing a charm and quality of their own that are certainly far above those of mere "imitations" of drawings, etchings or paintings. Good photographs have no more need to be miscalled pictures than mere paintings. As photographs they should fall or stand on their own merits. There are mediocre paintings just as there are poor photographs, both unworthy of preservation.

The mechanical photograph, technically perfect, teaches us much concerning nature, natural history, all forms of life, and showing us various phases of the development of these and other marvelous worlds, stupendous and everlasting wonders, disclosed by the all-embracing eye of the lens. By this combination of optics and chemistry the genius of man has produced the matchless magic called photography; and, by enlisting the assistance of mechanical ingenuity, a superb lateral offshoot, the kinematograph, holds the world in thrall with its great educational power. The possibilities of this last, properly controlled and directed, are capable of acquainting us, from youth to old age, with the best that art and nature can afford, even with inspirations for our physical and intellectual advancement. And what a mission individual photographs depicting sentiment open out, particularly when a knowledge of art has given them an added charm, oftentimes making them worthy of space upon the walls of our homes, ever a pleasure to the mind and eye. There are beautiful portraits of our own loved ones, dear friends, people of distinction, or of loveliness, seascapes and landscapes, precious reproductions of both the old and modern masters, all made possible by photography.

I once heard a photographer of considerable refinement and no mean capacity affirm that he was ashamed to acknowledge himself as such, refuse to be seen on the street with a camera and decline to discuss his calling outside his place of business. There are many thousands following the profession (for such it was declared by a legal luminary of the San Francisco bar) who honor neither it nor themselves; but every good man in the ranks should hold photography in the higher esteem, if only to counteract the dragging-down proclivities of incompetents, the narrow and unappreciative ones that would treat our highly useful and fascinating science with frivolity or disrespect. It would certainly strengthen the position of photography as a profession if certain of its followers could disabuse their minds of the absurd and persistent idea that the man behind the lens could ever hope to compete with a master in any branch of the fine arts. Think of the artists who have glorified the ages with their achievements, and then, with a correct appreciation of values, strive for a sane view of things, and it will be found that while a strong photograph may score over a weak drawing

GREY EYES SWEET SEVENTEEN A SANTA CLARA BELLE or painting, no one having an atom of artistic judgment would dare to compare a perfect photograph with a perfect painting, or with any other work of art.

Absolutely, there could be nothing rational in such a comparison.

MARY

There may be some painters who turn to photography for facts or for assistance that could be better obtained first hand from nature, but such use amounts to but little after all when all is summed up. Photography may record facts, but it will not teach us the intricacies, the simplicity, or the boldness of design; it will not acquaint us with the subtlety of composition, the value of subordination. It does not impress us with the commanding power of drawing, the facility of technique, the sure and deft touch of the master hand. It does not give us the supreme and crowning glory of color, color in its double sense; decorative harmonies as well as the naturalistic aspect secured by the artist with his palette set to match, as nearly as possible, the radiant and mellow hues of nature.

If photography is our chosen hobby or profession, recognizing that it has its limitations in certain directions will permit us to focus our attention on its own strong individual features. Doing this, we can lift it, and ourselves as well, still higher. By removing all narrowing practices, developing it in detail to the full extent of its possibilities, each one according to his capacity, progress will be achieved. One may be an ardent admirer of the fine arts, but he can also be a lover of photography, finding delight in the product of the camera as well as in the possession of paintings and other art work, but we must award the pictures their rightful place in our homes. Even the decorators cannot displace them, for they find their way into our rooms, giving them the charming

LESTER THE JUDGE CAROL

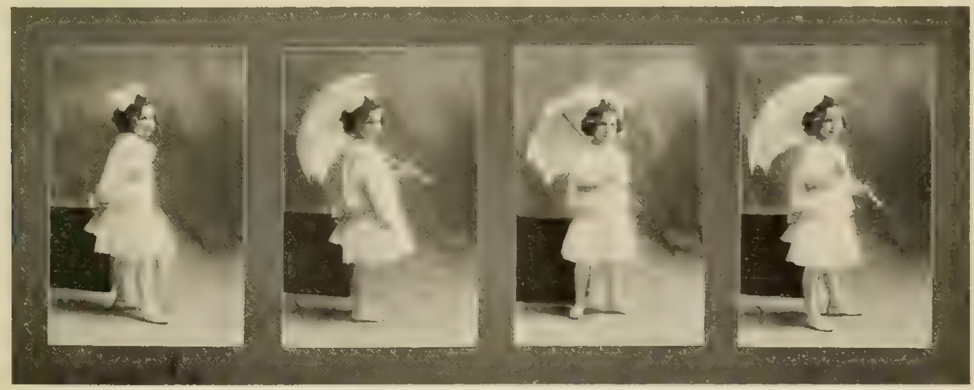
touch that the flowers, the shrubs and trees give to the outer aspect. The desire and the demand for high-class photographs is the living opportunity for the ambitious photographer to produce artistic photographs, ones that will take an honored place amid the household gods.

Let us all strive to create work worthy of being preserved and treasured. Portrait work undoubtedly stands in the highest class of photographic endeavor —for I have yet to learn that there is anything that calls for higher skill or more worthy the effort of the photographer than portraits pure and simple. Some time ago a mother brought her son to my studio to be photographed; as he had just been confirmed, the ribbon of faith was pinned to his coat and the occasion was to be recorded by the making of a portrait. At first he refused to be photographed, saying: "Mother, I want your photo taken; you must give me one!" It was only after his mother promised to do so that he consented to have his own portrait taken.

The photograph of one quite dear to me traveled over fourteen thousand miles to reach my address. When I looked at it, I was disgusted and disappointed; and, out of contempt for the injustice done the face and features of a friend, I flung it into the fire. It was entirely devoid of any interest. The maker, he certainly was not a photographer, had failed dismally to produce a portrait, and, to make matters worse, poor posing, lighting and retouching had so distorted the nose that it had apparently no more shape than a Frankfurter sausage. That photographer had missed his avocation, and the world was made a loser to the extent of his misapplied energy. We must become enthusiasts. I once saw a beautiful, flower-like girl spring up with delight, her clear eyes gleaming with pleasure, laughing for sheer joy, because her portrait photographs were far beyond her dreams of success. They were to be a surprise present for her mother's birthday, and the fair maid was pleased beyond compare. Such a picturesque episode of sincere appreciation lingers in the memory, a sweet reward for the care and effort taken to produce the much-desired result, a pleasing portrait photograph. Let us all be like this young girl, enthusiasts. Enthusiasm over photography of the right kind is never wasted. Be enthusiastic yourself and your patrons and friends will respond to your warmth of feeling and do so with the dollars so necessary in paying one's bills. Be cold, indifferent, and unsympathetic towards your patrons' wishes, and no matter how much varnish and veneer you plaster on your place, your business will soon decrease until you are obliged to hasten to "fresh woods and pastures new." People do not come to inspect your rugs; they want fine photographs and their discrimination is growing keener all the time.

To build up a reputation worth having in any town, big or little, one must give the people real value in return for the money received. A stroll down the street past the several display cases will show which photographers are making of themselves groundlings, and which ones are advancing up the business by producing worthy work. It is due to our manhood, which means womanhood as well, to remember and honor the noble legion of scientists and other workers who have given of their best to make the products of photography both a utility and a joy. We should consider it a disgrace to send out unworthy work or to descend to mean and unmanly methods. Photographers should ever have the making of living art before them as an object, yet avoid groveling in the dust vainly endeavoring to hang upon its skirts.

Be yourselves, be photographers, build up your profession, one that is distinct and apart. Be proud of it, protect and foster it in every possible way. Photography affords a gigantic field in which to operate with a liberal public ever willing to pay for good work. Let us bear in mind that every faulty photograph that slips through our fingers loses more custom than we imagine, while every good one adds to our sitters and is the best possible advertisement for ourselves as photographers. The upbuilding of photography, not as a trade, but as a profession, is well worth our best efforts, and we should ever strive to keep near the master workers whose endeavors command our admiration and respect.



The work itself must be the Master's Praise. Any shouting from the housetops is degrading to the workman. Let your work praise you.—Temple Scott.

Photographing the Lumbermen

By J. N. Rice

With Illustrations supplied by the Author

EDITOR'S NOTE: *In justice to our readers we should explain that this article is not intended to encourage their taking up of this particular line of work, for the reason that it is at present greatly overdone. Not only this, but many of the largest lumber operators are refusing absolutely to allow any one to do any kind of business among their crews; and, in the few cases in which a photographer is allowed to take pictures and solicit orders, there is always some one who charges an exorbitant fee for the privilege. The article is intended, rather, by showing how work of this kind is done, to perhaps furnish suggestions that may be of value to those engaged along somewhat similar lines.*

Being a Southerner by birth and environment, when I landed a position with a photographic firm in northern Minnesota last winter I accepted the advice of kindly disposed friends and relatives as to fitting myself out for what would be, to me at least, some extremely cold weather. With a few hundred pounds of flannels and other woolens, a miscellaneous and generous assortment of gloves, socks, mufflers, etc., I left my native town, and forty-six hours later stepped from the train at beautiful Bemidji, the Hub City of north central Minnesota. My first impressions were not assuring. The people did not seem to possess that open-hearted, "come-over-and-take-dinner-with-me" spirit for which certain parts of the South are noted. Later, as I came to know them better, I found them just as accommodating and sincere, if not more so, than their Southern neighbors.

The second morning after my arrival the mercury slipped down some thirty marks below the zero point, but I was well prepared for just such a piece of playfulness and did not suffer. The atmosphere is so light and dry that the person who will dress properly will find this extremely low temperature causes little if any trouble or inconvenience. In fact, I believe the Minnesota winters are to be preferred to the ever-changeable ones of the South. On Saturday afternoon, two days later, Mr. Brown (I shall so call him) decided to start on our first photographic tour of the camps. Our equipment consisted of a 6½x8½ view camera fitted with a Dagor lens, a 5x7 fitted with Celor lens, a 5x16 A1 Vista, and, for occasional use, a post card size, focal-plane camera, also fitted with an anastigmat lens. In addition to the cameras, we carried about fifteen dozen Standard Orthonon plates, flash lamps and powder, several boxes of cigars, some stationery, advertising cards and a line of watches and chains. This outfit was put in strong cloth sacks made on the order of "saddle bags," to be carried over our shoulders when photographing in the camps. All was loaded onto the toboggan, our sole means of conveyance from camp to camp, and securely strapped, the whole weighing in the neighborhood of two hundred pounds.

We arrived at the depot just in time to catch the southbound train. At the first stop, thirty miles down the line, we got off and Mr. Brown hired a rig to

AT THE MORNING MEAL

IN THE BUNK HOUSE

take us to the camp. We sold watches until nine P. M., and the rest of the night was spent, by me at least, in trying to locate a reasonably soft spot in the bunk. Later, as my camp education progressed, I learned to sleep like the "proverbial top." The following day we made the next camp, fifteen miles farther on, Mr. Brown having previously photographed the one first visited, arriving too late to make any pictures that afternoon.

Next morning I was awakened at five thirty by the sonorous voice of the "bull cook" with his morning call of R-o-l-l O-u-t, and I learned that the wise guest did that identical thing and did it promptly or he more than likely went without breakfast. The camps have their rules or laws, and one is compelled to abide by them; and besides, it is best to keep in the good graces of the cook and "cookees" by always being prompt at mealtime.

Arriving at a camp near the dinner or supper hour, the first thing to be done is to get out the advertising cards and the cigars, and then, stationing ourselves on either side of the kitchen door, as each "jack" files past on leaving the room, tender him the box of cigars with "a smoke on the photographers," while cards are handed out on the opposite side. These last, printed especially for lumbermen and other traveling laborers, carry sentiments of all kinds that the sender can indicate as his own by making a mark in the blank space left for that purpose at the end of each line. A suggestion to the effect that pictures of a laboring man at his work are most interesting to friends or relatives, is printed on the face of the card. A large bunch of sample pictures are always left in the bunk camps as soon as we arrive, and these create an interest that can be aroused in no other way. Many find the faces of friends or relatives employed

A POKER GAME

THE "SWAMPERS"

in other camps, and this stimulates their desire to have their own pictures made in like order. After the cigars and cards have been passed, we dine with the cooks, a breach of camp etiquette that is permitted us by reason of a bribe in the form of a few cigars. After the meal, if it be the evening one, we go into the bunk camp, improvise a table by turning the toboggan bottom side up across a barrel or box, and the watch sale begins. When the camp is provided with tables, which is often the case, the toboggan is not used. Usually, while Mr. Brown was busy selling watches, I made flashlights of the interior of the camp. None were slighted, from the occupants of the office to those of the stables, including the blacksmith, scaler, saw filer and the cook and "cookees." The lumber-jacks, rounded up in a corner of the bunk camp, are given a generous dose of actinic light, and this is repeated again at breakfast while they are seated at the tables. In the woods we plan to make each individual's picture separately, except in the case of sawyers, jammer crew men, and leaders. These last are made in crews or as we find them, but under all circumstances each man's order is personally solicited. All photographs of the men at work in the woods are printed on 5x7 papers, mounted on 8x10 plain gray mounts and are sold at three dollars per dozen, one dollar and seventy-five cents per half

THREE OF THE PANORAMAS THAT ARE QUITE TYPICAL

POST CARDS SUBJECTS WERE VARIED

dozen, four for one dollar and thirty cents, three for one dollar, two for seventy-five cents or one for forty-five cents.

At eleven thirty the "bull cook" serves dinner at the lunch grounds. Here all the men employed congregate and a panoramic picture, 5x16, is made. These sell for fifty cents straight, and each person's order is again solicited. A large picture is also made of the teamsters and horses when possible, and a panoramic view of the camp and building is very often included in our work. Occasionally a few 5x7 views are taken of interesting subjects around the camps and these are offered for sale when the regular work is delivered. However, experience has proven that this does not pay very well.

In taking the customer's order, a green ticket is given with each picture to be delivered, and this entitles him to a chance, when payment is made, in the drawing of a watch or safety razor, the value of the prize depending upon the volume of business that has been done in that particular camp. When the delivery is made, the customer is again handed a ticket, this time a pink one, this last being the one recognized, the former or green tickets being worthless. At the raffle the green tickets are not accepted, being only given out when the order is taken to impress the patron more forcibly with the fact that a raffle is to be held. When the envelope containing his pictures is given to the man ordering them, as many pink tickets are allotted to him as there are photographs in his envelope. These are accompanied with the statement that, as he has six pictures, he is entitled to six tickets or six draws on the watch or razor, as the case may be, and he is asked if he "will please sign for them here," the blank on order slip for his signature being indicated at the same time.

The psychological effect of this request, upon the mind of the customer, is that he is only signing for the tickets, and this is by no means a skin game, but merely a plan whereby deliveries are made a little more satisfactory. The fact that Mr. Brown goes over the same territory year after year is proof abundant that he gives "Jack" a perfectly square deal.

A FREE PRESENT

to every crew, in proportion to—
1. The business you give me.
2. Prompt and complete delivery of all good photos ordered.

A. A. RICHARDSON,
Bemidji, Mich.

Sign your name below. If you go away before we bring photos, leave this ticket, and payment for your photos with someone.

M..

FRONT AND BACK GREEN TICKET

A FREE PRESENT

to every crew, in proportion to—
1. The business you give me.
2. Prompt and complete delivery of all good photos ordered.

A. A. RICHARDSON,
Bemidji, Mich.

Sign your name below and return this ticket to us at once with payment for your pictures.

M..

FRONT AND BACK PINK TICKET

All plates are numbered to correspond with the order slip, or rather, vice versa, the slip made to correspond with the plate number; and, as an aid to the finisher, a record is made of each exposure. All films and plates are sent in to Bemidji, where the pictures are finished and returned to us by parcel post or express. Each man's order is put up in a separate envelope with order slip attached. He is required to sign this blank, which later is handed to the camp clerk, who, after adding the totals of all the slips, deducts ten per cent for collecting and writes a check for the amount. Once in a great while the clerk demands fifteen or twenty per cent, but that is the exception and not the rule.

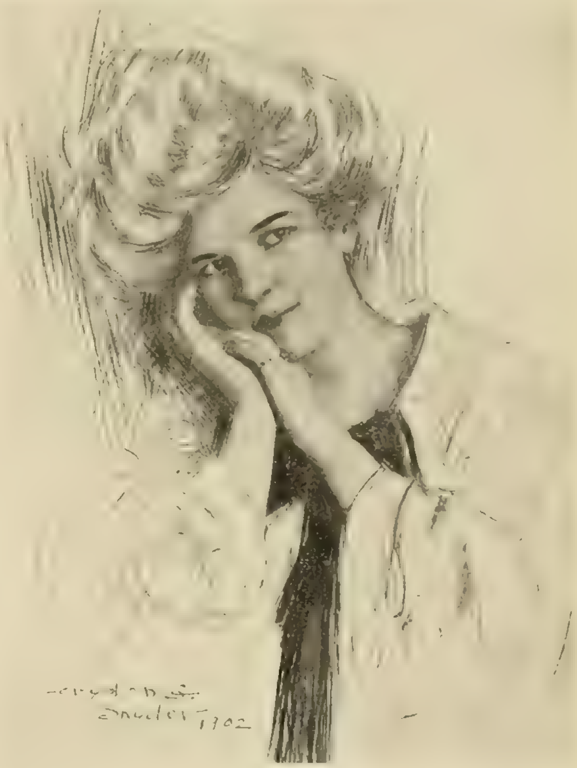
I made several negatives of Itaska Park and Lake, also of Douglas Lodge, a noted summer resort, during my stay in that neighborhood, but these were spoiled in transit to the Bemidji house. Some of the most beautiful scenery imaginable is to be found in the pine belt, and many is the time I have wished for one of the small miniature cameras. When I return there I shall most certainly try to include one in my outfit. In conclusion, I wish to say that there is good money to be made photographing among the lumber jacks; but if the aspiring photographer imagines that it comes without much effort, let him try hauling a heavily loaded toboggan through the snow of an unbroken trail for from fifteen to twenty-two miles a day, winding up by selling watches or making flashlight exposures until nine o'clock that night, and he will know differently. He will find it a grim business, nothing more.

Some History of the Photo-Sketch

By Corydon G. Snyder

With Illustrations by the Author

Owing to the fact that there are so many who claim to have originated the Photo-Sketch and Etched-Negative processes, I think it best, before proceeding with other articles on these subjects, to tell what I know about their origin and my own connection therewith. Since again taking up the work of instructing in this branch, I quite often run across the trail of a new claimant. As but little has been published on these processes, each of these undoubtedly has good grounds for at least claiming to have originated the particular process he employs, even if it be similar in detail to that used by some one else.



MISS NINA BLAKE—An early example of Photo-Etching made in 1902.

Ever since the process of halftone engraving was discovered there have been done more or less vignetting and other hand-work improvement of the photographic print before the printing plate is made therefrom. Such work was being done when I started, as an apprentice, in the art room of a photoengraving establishment. This was in 1897, and I did my share of this hand work on photographs of both mechanical and artistic subjects. This working up of the picture is usually done by air-brush in combination with hand-brush work. The problem for the artist, aside from the skill usually possessed, is comparatively simple, as the engraver can follow any effect in finishing the halftone plate.

I had been employed at this work but a short time when I purchased my first camera, a 4x5 instrument using plates. My first photographs, not being especially good, I essayed doctoring them up, working on the prints after the manner employed on copy for the engraver. A number of my friends were theatrical people, and they made very good subjects for this kind of work. The effects I obtained were well liked and a number were used as originals or "copy" for cuts for publicity and advertising purposes. I later purchased a 5x7 camera and continued doing some professional portraiture, mostly in connection with my art work. I early experimented to find a method of getting the desired effects on the negative instead of working on individual prints, so that I could make duplicates without so much trouble. Up to this time I had never seen any prints made from negatives that had been etched or otherwise manipulated to get the sketch effect. My experiments were varied; I tried all manner of effects and various methods of obtaining them. The etching and the sketch required different methods to give the different effects, so I classified them and called the pencil and wash drawing effect the "Photo-Sketch," and the etching effect the "Photo-Etching." This last name being rather likely to be confused with the photoengraving process, I called my own work along this line "Corydon Etchings."

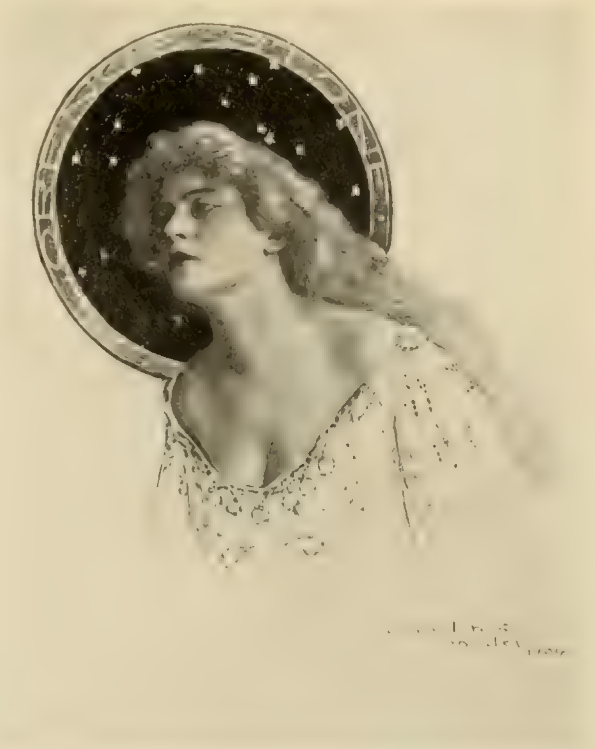
I also did some work that I called "Corydon Film Etchings." These were made by exposing a film to light sufficient to obtain the required density, developing it, and then doing my etching thereon. This film carried no photographic image, but after being hand etched was used with the same intent that a drypoint etcher uses the copper plate; only, instead of using ink and press as he does, the etched film is printed in the same way a negative is. As far as I know, I was the first to do any of this work; and, aside from that done by students of the "School of Corydon Etching," started in 1904, I have never seen any others.

To etch the film of one of these evenly darkened plates direct from the model would be quite difficult on account of the necessity of working at a retouching stand. Therefore, it is best to first make an ink or pencil sketch and then use it as a guide in making the etching. Another plan is to make a rather flat copy negative of your sketch and work over that. These of course are methods that overlap the Photo-Etching process, as one is really working on a negative despite the fact that there is no photographic image.

The first of my etchings that were reproduced in print appeared in *The National Magazine* in 1902, and I had an article illustrated with some of my etchings in the *Broadway Magazine* of January, 1903. I submitted a number of these etchings and one "straight" photograph to the First American Salon of 1904. The jury refused to consider the etchings, but the straight photograph was accepted. Previous to this I had exhibited in the Chicago and Minneapolis Salons, but did not again try the National. Much of the artistic photography that is accepted is more or less faked, and I believe that any work which tends to produce an artistic picture should be considered as allowable. Those in which the hand work is so very apparent, as in the case of the etching and sketch process, could be set apart. I believe that this movement will grow amongst the artistic photographers having an inclination toward drawing.

The ordinary photographer may not be able to do much original work, but he can at least add a few of the simplest of these effects to his line; and these, pushed with good judgment, should tend to increase his reputation as well as his bank account. The first prints I ever saw made by another, showing that hand work had been used in connection with the photographic image, were made by a photographer in the Dearborn Theater Building, Chicago, in 1902. I have forgotten the photographer's name, for which I am sorry, as I would like to give him credit here. While I had, at that time, already perfected my methods, I had done so little professional work that there was not much chance of his having gotten the idea from seeing samples of my work.

The first published work that I saw, came, some time afterward, from the Strauss Studio, St. Louis, and I should say that they were Photo-Sketches. Understand me, I do not say that either of these gentlemen, or whoever did the work for them, had not done this style of work before these dates; or, for that matter, before I did.



MISS FLORENCE STONE—A Photo-Etching given wide publicity ten years ago.

When I first came to Minneapolis in 1903, Sweet Brothers were showing some samples along the style of the Photo-Sketch. I have been told that an artist by the name of Graves did the hand work. I called on one of the proprietors and showed him samples of my work and he was surprised to learn that any one had carried the processes so far. He stated that they had tried to get a patent on the process, believing themselves to be the originators.

In 1904, another artist named Clay Kelly, and myself, organized a correspondence school to teach Photo-Etching and Photo-Sketch methods. As it seemed to require more application to learn the etching than the average photographer had time to give, few of the students went far with that process, but the Photo-Sketch gave them little difficulty. Owing to our methods of teaching, employing original prints and personal correspondence, the cost to us in time and trouble left no profit in the amount received for the course, fifty dollars, so we closed the school to new students, gave those who had enrolled a chance to finish, and destroyed the plates. For a few years following I did theatrical work exclusively, using both the sketch and etching methods. While doing this in New York in 1905, several others were showing like work in their cases. While commercial illustrating has of late been my main line, I have continued to do some of this work for old customers or in connection with my art work. However, I have received so many requests for instructions since the school was discontinued that I have gotten out instruction sheets showing how the work is done; for, while the idea is simple enough, there are some technical details that one should know in order to avoid useless experimenting. I hope, in the articles to follow, to be of help to those who are doing this work as well as to those who wish to take it up.

When Photography Only Copies

They teach us, in the schools of art, to so design articles of ornament and for domestic use that they may please the eye. The contemplation as well as the creation of beauty in line and harmony in parts is a pleasure pure and ennobling. We copy such a design into the thing that we build and hold it as a lasting pleasure. A bit of brilliant repartee flashes from the mind of a man who has conceived it under the stress of some stirring emotion. It is copied into a book; and, in each generation that follows, men are refreshed by its aptness and its worth.

A man so lights a face that those who behold are charmed as with the beauty of a sunset. Imagination and a trained mind make of the work a creation, but one that will vanish when the model turns his head. Such glorious elements as mass, line, light, color, balance, contrast, harmony and expression, have been employed. If, by means of photography, the creation be saved for other eyes, shall we not rather bless the means that achieve so much rather than condemn it because it has only "copied"?—Frank Morris Steadman.

A Simple Camera Trip

By Roy Bigelow

With Illustrations by the Author

I do not suppose that either the little village of Willsborough or the beautiful Willsborough Bay near which it is located is known to more than a score of CAMERA CRAFT readers; but they are not so remote as they seem, being only six or seven miles from the Great Ausable Chasm, of which, I dare say, many readers have heard if not actually visited. The pictures accompanying this article were made on a little pedestrian trip along the track of the Delaware & Hudson Railroad, which skirts the shore of this beautiful bay of Willsborough. While it is perhaps quite true that few if any of my readers will ever find it convenient to take this same particular trip, practically all of them can find locations along some railroad near their homes that will be equally interesting. If the nearest railroad does not happen to pass, within walking distance, through any suitable rough country, an hour's journey on one of the trains should take one to a likely locality. Then, if one be careful and thoughtful, he can no doubt have just as good a trip as the one I and my companions enjoyed when these pictures were taken.

If one will but select some such nearby piece of rugged and interesting railroad track and carefully study the views it presents as he follows along its right of way with a camera, he will find that so doing is an excellent means of cultivating his power of selection and his knowledge of composition. A camera should be used that is light enough not to be a burden, and any good roll film camera satisfies this requirement. But when I say good roll film camera, I do not mean an expensive one, but rather one that has not been abused by being left on a shelf for some weeks, without the protection of a case, to become loaded with dust until even the lens is dirty and dusty. I believe that a case is just as essential to a camera as is a tripod. When a camera is carried about unprotected, dust surely finds its way into the internal parts, where it later causes trouble. If a shower comes up while one is out on a photographic expedition, the unprotected camera is almost certain to get wet or damp, and this in turn has its effect upon the shutter and other parts of the instrument. The pictures used to illustrate this article were taken with a two-dollar Brownie No. 2, and that is certainly not an expensive camera. A simple outfit and a little care are all that is necessary from beginning to end; in fact, without the latter almost any trip is quite sure to result in failure, from a photographic point of view.

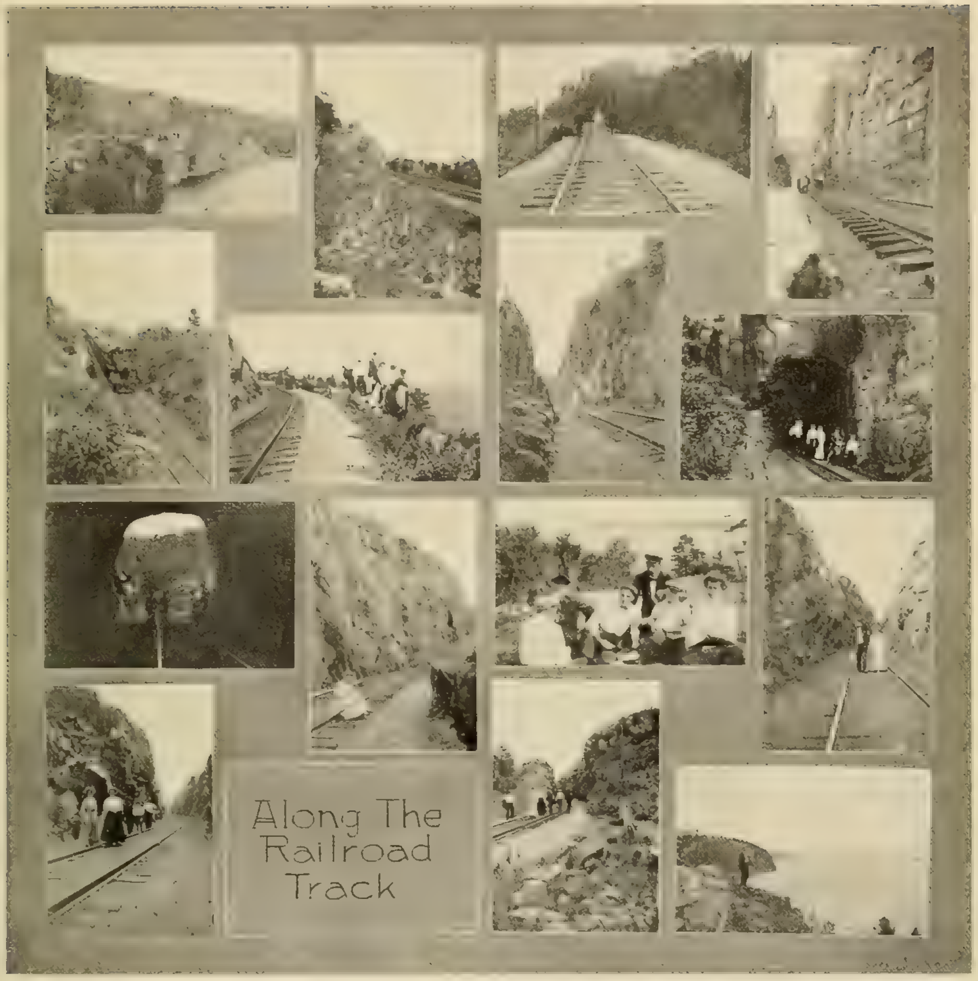
As I have suggested, if one lives in a locality that is nearly level, where there is little variety in the scenery, the pleasure and profit that can be derived from a trip of this kind would well repay one for traveling a few miles over the road in order to reach a more promising field for his photographic activity.

Doing this, one could leave the train at a suitable point and, after walking back through the selected territory, again take the train, this time for home, at the station reached, thus making the trip, the photographic expedition, one that involved practically no walking other than that necessary for the actual making of the exposures.

As one starts over the selected strip of road, he should not forget to turn and study, from time to time, the view behind him for possible pleasing compositions. Many times the view that was unsatisfactory from the opposite direction will have an entirely different aspect, perhaps be found even better than the one in front. Several of the pictures herewith are the result of occasionally looking back as well as keeping a close watch ahead. Often the view to the rear was found to afford a picture I never would have gotten had I not occasionally looked backward as I did.

The advantage of this close study of similar though varied views is wonderful; much more so than in jumping about from one to another of entirely different subjects. Many opportunities for making selection are presented while the worker still has in mind the problems of a similar view, recently solved. There are the rock cuts with their high, rough walls of stone, the trestles that span the deep ravines; and possibly one might, as I did, find a tunnel before reaching his journey's end. The ever-present rails will quite naturally form leading lines, quite good ones, in most of the compositions, if the camera be placed in the right position. One of the pictures shown herewith was taken from the center of the track, and it can be seen that this gives the rails an unsightly appearance, the picture `seemingly taking on a stiff look. Other of the pictures, taken from one side of the track, have a more graceful quality of line, the rails helping to make a pleasing composition. One wants variety, I am sure, and one can easily avoid sameness by a little care, despite the ever-present parallel bands of steel. Some of these pictures are no doubt more interesting to those who accompanied me than they can be to any one else, but it is well to remember to make, despite our preference for pictures having some artistic quality, a few exposures solely for the gratification of one's companions who are more interested in pictures of themselves. Opportunities for good portraits are usually quite plentiful on account of the many fine backgrounds of rocks and trees along the right of way; some huge rock or grove of trees makes a fine setting for a group, and when luncheon time comes and the repast is spread out, one should not allow the opportunity to pass without recording the event on the sensitive film.

It will sometimes happen that the lighting of a particular scene is not the most suitable, from an artistic point of view, at the time it comes before the camera. One can, however, often plan to revisit the locality at a future date, arranging to reach the desired scene at an hour when the lighting will be satisfactory. Generally speaking, the best season for such a trip as I have advised is during the summer months when the light is at its best and the landscape presents its most pleasing aspect. But the landscape alone need not be depended upon entirely. Perhaps, as one studies a certain view, he finds that while it is somewhat pleasing, it still appears to lack something; if so, that is probably the place where the flyer should be caught as she comes around the curve at the



rate of fifty miles an hour. Unless the camera is equipped with a fast shutter, one should not let the train get too near before making the exposure, as otherwise the picture will no doubt be blurred. The example shown herewith was taken with my No. 2 Brownie; and, while the train was going about fifty miles an hour, it appears sharp because some distance away.

Another picture, the one in which my companions are walking ahead, shows that the rock cut they are about to enter is quite dark. One might, on a similar trip, find a deeper rock cut, or he might not find one that was not so deep; but in either case, when taking pictures within the shade of such a cut, one must be careful where the camera is placed and be sure to give an exposure of sufficient length. As such exposures will probably have to be time, a solid foundation must be found for the camera, unless one has taken a tripod along. I failed to take a tripod with me on this trip, the only one at hand when I started being left behind as too large and heavy; so I frequently had to look about for a substitute therefor. If one does this, he must be careful in the selection, to see that no rock or tree is so near the lens as to result in a picture that is not entirely pleasing. An example is shown herewith, the large blur in the lower left corner being a portion of the rock on which my camera was resting The part shown was so near the camera that, judging from its appearance in the picture, one would hardly know what it was. Even though time exposures are necessary in these rock cuts or where tall trees make shade, they must not be too long or the result will be worse than a snapshot. With my camera, the No 2 Brownie, I did not count time or use an exposure meter, but simply opened and closed the shutter as quickly as possible. Even then I had some slightly over-exposed films.

Should a trestle be found, as was the case in my trip, it should not be passed without first receiving a careful looking over. Trestles, like bridges, generally span a ravine or other break in the landscape. Perhaps a good composition is presented or it may prove just the place for a group picture of one's companions; it is the photographer's province to decide. Unless the railroad passes through a rather mountainous country, one will probably fail to find a tunnel; but if one is encountered, he is almost sure to find something interesting about it. It will no doubt look black and ugly at first glance, but by employing its entrance as a background, one can often get a composition of which he can well be proud. Besides, it is well to have some person or persons posed at the mouth of the tunnel to indicate its actual size. In the example shown, had the figures not been there, the tunnel would have looked much smaller than it really is. The other was taken from inside the tunnel; and, while there is nothing very beautiful about it, it is interesting as the result of an exposure made more to see what it would look like than for anything else. On such a trip, one should not be afraid to experiment a little in the matter of exposure; but, in doing so, he should try to remember the light conditions and other details so as to gain valuable knowledge by later studying the results. It does one little good to make experimental exposures and then forget how they were taken, what time was given, and the like, because so doing will not help the photographer or any one else.

The pictures herewith are not offered as examples of exceptional merit either on account of their artistic compositions or their absorbing interest. They are shown merely as the result of a trip, a trip on which the author flatters himself he learned much by reason of his efforts to make the best possible selection from the material available. The last picture of the series shows Willsborough Bay with its rocky coast on the left and Willsborough Point far in the distance to the right.

Christ was not poor; He could bring to himself the best that the world held; He could multiply resources at will; He could command ten legions of angels. Though when He entered upon His ministry He renounced the acquisition of wealth, He had, through the power of His personality, the literal command of all things needful—all physical, material things. And this power He gave to His disciples when He sent them forth, so that they were supplied with food, raiment and shelter. He attracted men to him so that they gave the needs, the associations and the joys of life; and He was numbered with the rich in His death.—HERBERT EDWARD LAW.

Advertising the Studio

By Lawrence Siebeneck

Robert Frothingham, writing in *Everybody's Magazine,* remarked: "We will put up with poor teachers for our children, lawyers whom we don't respect, dentists who yank and twist our jaws, and preachers who put us to sleep, but when we come to have our pictures taken, we all seem to know a good picture; we call for quality; our personal vanity is at stake. We have seen the best types in photography and we are going to have our pictures and those of our family as fine and as artistic as the best." Teacher, doctor, lawyer, dentist, minister; surely some combination of science, skill and art! I always knew that we had poor teachers, bum lawyers, pill-dopers who are careless, dentists who break our bones, and divines who read the Bible upside down, but when some one leans over our shoulder and sort of confidentially like whispers in our ear that it requires an expansive amount of skill to hold the title of photographer, we sort of begin to feel "mighty darn important."

While it is quite true that professional photography requires much skill and practice, there are times when we feel as though the public does not appreciate the artistic temperament and ability which we have acquired through years of hard study and practice. So it only remains for us to show the public how important we photographers really are by creating a demand for our product through advertising.

It is frequently remarked that the photographer does less advertising than any other kind of business man. To my mind, nothing is farther from the truth. While it is a fact that some of us use comparatively little newspaper space, we are constantly advertising our business. I have often wondered whether or not the photographer ever stops to think of what advertising value a dozen photographs really are. The number of people who look for the photographer's name on a picture is surprising. Whether the photographs are good or bad apparently makes little difference to the recipient, who generally loses little time in displaying your product prominently on the mantle. Your work, thus displayed, serves as a constant reminder to many people who may contemplate having their portrait taken. I consider the photographer's own product his strongest advertising medium. The photographer's display case is another strong advertisement. True, some display cases are allowed to reach various stages of decay through not being painted for a number of years, and the glass is frequently allowed to remain broken to heighten the effect. Such display simply advertises the fact that the photographer is neglecting his business.

Do you not, yourself, often judge some people and their business by the appearance of their stationery? What would you think if your stock house wrote their letters with a lead pencil on sheets torn from an old composition book, paying no attention whatever to avoid misspelled words or poor composition? Yet this is exactly what many photographers are doing. If you are using any old scrap of paper and those red proof envelopes for your personal correspondence, it is time you gave your printer an order for some printed stationery. The quality of the business stationery is, in the minds of the people, in keeping with the work of the studio. An enterprising, progressive photographer, one who makes a study of his business and keeps abreast of the advancing times, one who advertises his name as a guarantee of quality, has his name arranged in a certain style and uses it, so arranged, throughout all his advertising. The stationery often consists of a peculiar brownish color somewhat similar to the new sepia-colored proof envelopes. Except his name and that of the city, no wording whatever appears on either the envelope or paper. Such special arrangement immediately appears to most people. Many photographers think they must run a display advertisement on their stationery. Such forms as: "John Merkley, Photographer, 25 S. Broadway, Sidney, In. Everything in Photography. Sittings Day or Night. Good Work at Reasonable Prices. Post Cards $1.00 a Dozen. Children Our Specialty. Copying and Enlarging," are very common. There is entirely too much type devoted to telling about the business. The more simply a firm's name can be arranged, the more effective it will prove. An unruled writing space looks much neater than the suggestion of a child's copy book. Correspondence cards are used by many first-class studios.

If you are using newspapers in which to wrap your finished pictures and have to fish around in the waste-paper basket for a piece of string, remember that you are advertising. Ticket schemes are classed as advertising mediums. Whether or not they are profitable can be best decided by the studio using such method. Personally, I do not approve of them, as they seem to cheapen one's work. There are a number of ways by which competition can be met. The profitless way is to cut prices. The most meaningless advertising phrase ever coined is, "Our Prices Defy Competition," particularly when one could as truthfully say, "The quality of our work defies competition." One may order some photographs at a studio that offers a mark down in price for a certain week and feel confident that the photographer will give us as good work at the reduced price as he does at his regular one; and, should he not, be sadly disappointed and discouraged with the bargain. Quality is the thing people demand from a photographer as they demand it of no one else.

What about the post card trade? Of course it will stay for a long time. Some photographers are quite positive in their assertion that it is ruining their better class of trade. This is a matter on which it is quite difficult to make any comments, but be it said that if we were all putting out our post cards as do some of the studios making complaint, many of us would be forced to close our doors. Some photographers seem to think that because post cards are sold at seventy-five cents or a dollar per dozen, it makes no difference if the subject moved, the cards be overtimed, or whether the customer is satisfied or not, 'they've simply got to take them." Of course, in such cases the better class of trade will be driven away. If one makes his post cards up to the same standard as his other work, he will receive much good advertising through them. If one is making post cards, he must, of course, meet local competition. If the fellow

L. J. SMITH

PHOTOGRAPHER

OPPOSITE THE POSTOFFICE

Photographs taken day or night. Enlarging and Copying. Cabinets $3.00 a dozen and up.

GIVE ME A CALL.

(1)

Light Summer Reading

You probably get as tired reading my photo ads, as my mother-in-law does of me, and that is putting it pretty strong. Did you ever think of an excuse for your mother-in-law? But we are not on the comic supplement of this paper. We just merely meant to tell you how popular our photos have become because we make a lot of proofs to select from and don't charge extra. After all our method is the most liberal in town.

Fenner's Studio

25 Fourth St., Pyroville, Pa.

(2)

You'll soon be thinking of a way to please Father and Mother at Christmas time. Your portrait as you are to-day will please them.

EBERSOLE STUDIO

Main St., Metola, Mo.

(3)

SPECIAL! This Week Only!

Our regular $7.00 Sepia Folders at $4.75 a Doz.

C. L. HAYS : Ortola, Ore.

(4)

Studio open daily from 9 a. m. to 12 a. m. and from 1 p. m. to 5 p. m. Closed all day Sunday.

PHOTOGRAPHS

Par excellence, skillfully taken, finished beautitifully. Absolute satisfaction guaranteed.

SPECIAL OFFER Cut out and bring this ad with you

For the Graduate, Bride and Groom, the Family—12 Regular $4.00 Photos and one handsome 8x10, mounted 12x14. Regular $2.00 each.

COMPLETE FOR $4.00

Others at $2.00 and $3.00 per doz. All sittings made by Mr. Schmitz personally. Old photos copied and enlarged.

PETER SCHMITZ

Established since 1895.

(5)

Sweet sixteen comes but once in a lifetime.

Hold what you can — a Photograph.

Kilvey Art Shop, Amidola, Ark.

(5)

Those old pictures of Father and Mother are very dear to you.

Just bear in mind that your children will cherish just such pictures of you.

Empire Studio 3rd & Main Sts.

(6)

Twenty-one years young this month.

It's time for a photograph.

Ohio Studio Veloxa, Va.

(7)

You have changed some since the year you were married.

Bring the family for a Group.

Ebie Studio 220 Olive Street

(8)

across the street sells them at seventy-five cents a dozen, one cannot see how he is to avoid following his example. In this case it is a good plan to make up a set of samples, using the 4x5 size for, say, the seventy-five cent kind, and the full size card for the better grade. Then explain that you will furnish proofs and retouch the higher priced ones. By such methods you will be enabled to get above the cheaper class.

Street-car cards will keep your name before the public in a very effective manner if the wording is good and tastefully arranged; but they should not be used to advertise a mark-down price. If the Eastman advertising plan is followed up, it will prove very effective. Of course, the entire advertisement cannot always be reproduced with good effect on a car card, but the name or head lines of the monthly ads will serve equally well. The public has already seen, in the *Saturday Evening Post* or some other magazine, the same words you are using, and seeing them again, coupled with your name, it naturally causes a deeper impression. It is, of course, advantageous to change them monthly as the Eastman advertisements are changed.

We all realize that when Mark Twain said, "Blessed is he that bloweth his own horn, lest it be not blown," he was referring to advertising; but whether he meant hand bill, circular or newspaper advertising, we are not exactly sure. But one thing we do know, and that is, if we use newspaper advertising intelligently, we will be blessed with a larger monthly income from our business. Herewith I am sending a number of advertisements that have been used by various studios. A few comments thereon may be helpful.

No. 1 seems to be in quite general use by photographers. As it reads the same, twelve months in the year, the public regards it with very little, if any, interest. It carries no argument whatever.

No. 2 is one of a series of very catchy announcements that a certain Ohio photographer is running, changing every week. One week he has a few remarks concerning the bad weather, while the next it is something about the children. They have a peculiar twist of their own and are eagerly watched for by the public.

No. 3 is pointed and contains some real good stuff.

No. 4 is one that photographers frequently use; but it rarely proves very effective, as a score of photographers who have used it will be only too glad to tell you. A mark-down in photographs does not give the photographer the matinee crowd that the department store secures when it advertises a four-dollar corset for three dollars and eighty-six cents.

No. 5 is one such as most of us have seen innumerable times. The original carried a halftone portrait of the photographer at the top. This advertisement contains entirely too much type to be readable. It is an attempt to say too many things all at one time.

Nos. 6 and 7 are written according to the Eastman plan and are good reading. They both carry properly placed halftones.

Nos. 8 and 9 are well worded and clever. They can be used as brief liners, but prove very effective and showy if used in connection with a cut as shown.

The Postoffice Department has recently made a ruling that all paid-for reading notices must be marked, "adv." Therefore, the photographer must be somewhat careful not to display too much personality in these write-ups. Very few of us care to read an advertisement more than once; therefore it is very important that newspaper announcements should be changed weekly. Photographers often complain that newspaper advertising has not brought them returns. Either they have not used the proper wording and display or else they abandoned it after only two or three insertions. It must be remembered that the photographer is dealing in a luxury and that he must create a demand for his product through persistent advertising. It is more difficult to write a good advertisement about photography than it is to write an effective one for some department store, as the latter deals in necessities. Further, it must be borne in mind that when advertising fails to bring results in the first few weeks, one must not get discouraged and quit, but continually keep one's name before the public and not let it forget that his business is to make good photographs. The Eastman Kodak Company is telling the entire nation, through the pages of our most popular monthlies: "There is a Photographer in Your Town." A lot of people do not seem to know it. Whose fault is it, yours or theirs?

The foundation stones of the whole modern structure of human wisdom have all been laid by the architects of yesterday. Thrice wise is he who knows the quarries and builders of bygone ages and is able to differentiate the stones which have been rejected from those which have been utilized.—Albert Tracy Huntington.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—THE EDITOR.

REPAIRING SHUTTER BULBS: I always keep a little tube of rubber cement, such as is used for tire repairing, at hand in my studio. With it there is required but a moment in which to repair an unexpected leak in the bulb or tube of my shutter. It also works quite well in repairing or mending slight holes in the corners or elsewhere in the bellows of a camera. One little dab of the compound generally answers, but if time permits of the application of two or three coatings with sufficient time for one to dry before the next is added, quite serious leaks can easily be overcome.—G. F. D., Ohio.

FINDING A BELLOWS LEAK: No doubt every photographer has, at some time, attracted the attention of the whole neighborhood and furnished them amusement by encasing his head and the back of a camera in the focusing cloth and then pointing the former at the sun while he turned round and round, like a moon-struck ostrich, looking for a leak in the bellows. A much easier and more dignified procedure is to wait until night or go into the dark-room, and, after removing the camera back, place an electric bulb inside the extended bellows and in that way locate the leak.—L. C. T., California.

ARTIFICIAL FLOWERS: Like many other amateurs, I take considerable interest in portrait work and to use therein I some months ago purchased quite a modest little supply of artificial flowers, the principal ones being in the form of a bunch of roses and two or three good imitations of handsome, long-stemmed chrysanthemums. These I have found the most helpful accessories about my improvised studio. I got the suggestion from one of my acquaintances who had had such a bunch of roses handed her, as means of occupying her hands, by a professional who has considerable local reputation. The idea is a good one and I have since found that these bunches of roses are a regular article of commerce in the stock houses catering to the professional photographers. Mine are more varied in character and are used in the hair, on the shoulder, at the corsage, and in many other ways, as well as by being held in the hand.—F. G. H., Ohio.

AN ADVERTISING SCHEME: I am a small town photographer, and while the advertising rate of the local paper is not high, it costs some little money to make a good display. This year I went to the publisher of our leading town paper and got a fairly low quotation on a whole page. Then I got him to set up and pull me a proof of a nice display for the center thereof, reading: "SOME GOOD HOLIDAY SUGGESTIONS. READ EVERY ONE." I pasted this proof in the center of a sheet of white paper the size of the page and divided the border into a number of squares, some twenty-eight in all. Then I went around to all the dealers and asked them to take one of the squares, explaining how they were getting practically a full-page advertisement and one that would bring business that would not otherwise make its appearance. Even the local dealers who had regular advertisements in other parts of the paper for that week were persuaded to announce some particularly appropriate item in their stock as suited to holiday giving. One leading grocery called attention to a five-pound box of raisins, while another announced that an order on his store avoided all risk of giving something not particularly desired. The scheme has met with the approval of my fellow townsmen to such an extent that the twenty-seven available spaces were soon sold at a price that gave me the remaining one and a small profit for myself as a reward. Not only that, but the idea and the carrying out of it have brought me into closer touch with the other business men of the town, and that is quite desirable as a means of increasing one's own business. —H. N. Y., Colorado.

OPALINES: Like all other amateurs, I have a constantly growing accumulation of waste negatives, in my case, ones that are too small to serve as glass with which to glaze small picture frames as I have seen suggested. My plan is to clean them all free from the old emulsion and then give them a thin coating of gelatine solution. This last is about two per cent in strength and is applied warm. When it is set, I place down on that side a stencil which I have cut with a simple scroll design in each corner and the rest of the surface protected. With gold paint this design is stenciled on, after which the stencil is removed and an oval piece laid in the center and the border given a coat of some pleasing color of carriage paint. This leaves an oval space in the center and on this is squeegeed a print that has also been given an immersion in the gelatine solution. All that is then needed is a sheet of paper pasted over the entire back to prevent injury and the furnishing of an inexpensive wire easel in order to provide a neat little gift for some friend. In my case, using only spare time, they furnished a novelty to be sold at a church fair in which my wife was interested last winter. —S. A., Ohio.

AN UNDERWORKED FIELD: I have been wondering how many of my brother photographers, both studio and commercial men, overlook the field devoted to bromide enlargements for advertising purposes. I recently traveled some distance to make negatives with which to fill quite a nice order of this kind, an order that came to me through my name and address being on some work of a like character. The order was from a coal mining company that had of itself conceived the idea that a good enlargement showing its mine would, when inexpensively framed, be the best kind of an advertisement to distribute around among its agents. They reasoned that these framed enlargements would be given, nine times out of ten, a prominence on the walls of the dealers' offices that no other form of advertising could command. Of course, the work has to be figured at bulk prices and the photographer should be prepared to quote on inexpensive frames as well. A firm like George C. Mages Company, of Chicago, will quote on frames or moulding; and, with a mitre saw and clamp such as the Rockford, the frames can be easily made up in spare time. The prints are best turned out mounted on canvas-covered stretchers if the price the customer is willing to pay will permit. My practice is to quote on unmounted, card mounted, and mounted on stretchers, and also on any mounting framed, showing a sample of the frame all made up with something similar enclosed therein. Among my customers for hundred lots of these 16x20 enlargements have been such widely varied businesses as a livery stable, a florist, a hotel and a soda water manufacturer.—P. H. K., Illinois.

A REMOVABLE DARK-ROOM: There are no doubt a large number of amateur photographers who, like myself, desire the convenience of a dark-room but cannot appropriate an entire room to that purpose, and do not wish to erect partitions that necessitate disfiguring walls or ceilings of the room in which it is located. Any one capable of using a saw, hammer and pocket knife can construct an excellent light-tight dark-room for about five dollars, the amount varying slightly with the size of the space enclosed. My own is 4x8 and is formed by making a frame for the side and end walls out of 2x2 lumber and covering it with sheets of wall board that come in 4x8-foot size and costing about two and one-half cents per square foot. The upright pieces, five in number, of the frame are cut one and fifteen-sixteenths inches shorter than the height of the room. The two cross pieces at top and bottom of the side-wall frame are eight feet long and cut from 1x2 inch lumber. These last strips are covered with cloth on one side in order that they may fit tightly against either floor or ceiling, as the case may be, without damaging either. The frame for the end panel will require two of the light strips, four feet long. In putting up the frame, place one of the eight-foot pieces on the floor and from the center thereof raise one of the 2x2 upright, cut about one-sixteenth of an inch longer than the space between it and the top piece when the latter is put at the ceiling. Holding this upright in place, put the other cloth-faced eight-foot piece in position at the ceiling and drive the upright straight. If this upright has been properly fitted, it will hold the top strip snugly in position against the ceiling. Next place the two end uprights in position, thus completing the frame for the side wall. The frame for the end is put up in the same way, except that provision is made for a door, as shown in Fig. 2 herewith. The frame of the door is made from 1x1 lumber, and so fitted that it will swing inwards. In covering this door frame, cut the wall board about an inch and a half larger all around except at the hinge side, and this will make an overlap when the door is closed that will exclude all light. If it is desired that the outer surface of this door be flush with the outer wall when the latter is covered with the wall board, it will be only necessary to nail a piece of the wall board of the proper size to the outer side of this door frame. The sketch herewith shows the construction of the two frames used to make a 4x8 foot dark-room in the corner of my room having an eight-foot ceiling. Of course the dimensions of this frame can be altered to suit individual requirements, and I might advise that wall board can also be obtained in three-foot strips of any length up to ten feet.—E. D. D., New York.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

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A Merry Christmas and A Happy New Year

Our Advertisers, Our Readers and Ourselves

In a recent editorial we devoted some space to a consideration of the position occupied by our contributors and our readers, the relationship that should exist between them, and the advantage that both would derive from a clearer realization of the situation. One of our advertisers wrote to say that while he felt there was all truth in what was said, and that it was most applicable, he still felt that our advertisers might also benefit by a few words of the same tenor, a few words that would suggest to the reader how he could profit by a like understanding of the relationship sought to be established through the use of the advertising pages as well as through those pages devoted to the good efforts of our contributors.

The reader should understand fully that it is the advertiser that makes possible the publication of this or any other like magazine. Not that the advertiser buys space through a desire to express a philanthropic spirit; but his support, even though not purely unselfish, should entitle him to consideration from the reader to a greater degree than it is bestowed. The reader is too inclined to forget the advertiser's part and extend such thanks as he feels impelled to express to the publisher, although this last individual may be no more philanthropic in his motives than the least unselfish advertiser. The reader should feel that the advertiser using the pages of his favorite magazine is entitled to all consideration, not alone because the support given the magazine which brings him so much in return for his annual subscription, but because, in placing his announcements therein he is showing confidence in the goods he offers and a desire to have the reader learn of the merits. Not only does the publisher of a reputable magazine use every effort to exclude advertising that is misleading or questionable, but the fact that it does not pay an advertiser to deal unfairly with his customers is so well understood that it becomes almost a rule that advertised products are reliable while those not advertised are at least open to suspicion. Just as we advised the reader that the contributor was always glad to learn of his approval and appreciation, we would even more strongly urge that he apprise the advertiser of the same feeling. This he can best do by giving attention to all such advertisements as may interest him, affording the advertiser the desired opportunity, the opportunity for which he pays, of making the merits of his goods known, through his catalogues, his circulars, or by letter; and, if such claims appeal, through the means of an actual trial.

And this brings us to another point that should be considered, this time by the advertiser. This member of our triumvirate should realize the importance of using space regularly and continuously. The reader is quite inclined to feel, subconsciously perhaps, but nevertheless quite strongly, that irregular or spasmodic advertising is good cause for some degree of that doubt which he feels concerning a product that is not at all advertised. And another suggestion to the advertiser is one that reached us in a recent letter from a reader, one who went to some length to explain that he was not interested in the average advertisement of a photographic product or utility half as much as he would be if the advertiser would try a little harder to tell him just what his product would do, how it would improve results, lessen effort, save money, or whatever it might most particularly achieve in his hands. How long the firm has been established, how great an amount of the product has been sold, how much ground the factory covers, and like information, all these were secondary matters to him. What we believe the average reader wants is concrete and definite reasoning as to why he should apply himself with the product offered.

As to ourselves, we are simply the agency through which the advertiser, the contributor and the reader are brought in touch with each other. The advertiser is given the opportunity of talking to a few thousand photographers each month. The contributor has a like opportunity of extending his help and usefulness in the same manner. The reader, at the cost of his annual subscription, receives information and assistance that could hardly be obtained in any other way, regardless of the time and money he might be willing to expend. Our only function is to use our best efforts that each shall derive as full a measure of benefit as possible. This we can only do by encouraging our readers to feel that their interest should prompt them to assume a less distant and a less disinterested attitude towards our advertisers, just as we have tried to do in calling their attention to the same human desire for appreciation that we believe our contributors possess. We are not asking the readers to make any New Year resolutions covering their future behavior along this line, but believe the suggestion, the appeal, made above, should and will have their attention.

It Pays To Read

Few had the habit of reading before the printing press was invented; and yet there were great men before the day of the printing press! If from this you conclude that you can become great without the reading habit as easily as with it, then you are in error.

Those who achieved greatness before the day of the printing press did not live in the age of print. You do, and so do all your rivals. The men who expressed great thoughts and did notable deeds before the days of print lived up to the fullness of their times. They used in winning to their greatness every tool to which they could lay their hands. The sword and the spear, armor, fire, all the wisdom of their fellows and all the wisdom stored in manuscripts, of all these they grasped the best and used it as their genius directed. The same custom holds today. Your competitors, the best of them, have found that the cunning of your common calling has been put in print, and this they seize and use as best they can. While you ask if there can be anything in books for a man of your talents, your rival has found in print what suits his talents, and his needs as well, and has used it and has won.—John Cotton Dana.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Waxing Paper Negatives

Perhaps the best way to do this is to melt a sufficient amount of paraffine or white wax in a dish of suitable size; and, while it is still quite hot, immerse or float the paper negative on or in it. Another plan is to place the negative face down on a clean piece of paper that is itself resting on a clean blotter, whittle some fine shavings of the wax thereon, put down another clean piece of paper and run a flatiron over until the wax is absorbed evenly. Canada balsam thinned in turpentine has been used, but is not as satisfactory. There is a formula for a resin, wax and turpentine varnish, requiring bringing to a boil, but this I have not used. After some time there may be white spots make their appearance, and the remedy is to apply another coat of the varnish. Another good plan is to apply vaseline roughly to the back, and then iron several times between blotters.

Preventing Curling of Prints

The prints as they come from the wash water, prints made on developing paper, should then be immersed for about ten minutes in a bath made up of one ounce of glycerine in every eight ounces of water. After this treatment they are simply drained and hung up to dry in the usual manner. They will then be much less affected by atmospheric changes and their inclination to curl up will be practically destroyed.

Washing Prints

I was in the dark-room of a commercial man the other day when he put a few rush-order prints in a porcelain tray, laid in the end of a rubber tube from the faucet and turned on the water to wash them. I expected to see the prints all rise with the water flowing in and then slip over the edge of the dish. This did not happen for the simple reason that he reached up to a line behind him and brought down a number of spring clothes-pins, such as are used to suspend prints when drying, and snapped three or four onto each edge of the tray. The water rose to the edge and flowed over, but the prints were not allowed to do so because of the clothes-pins not permitting them to pass between.

A Bromide Enlargement Background

A recent visitor asked us concerning the working out of a plan that he thinks might be quite interesting as to results. He has a very pretty country home and a particular corner of his wide veranda has been found most attractive as a background during the blooming season of a nearby rosebush and a clematis vine that occupies one corner. Unfortunately, the pleasing effect is only at its best during that season of the year when he is frequently called East on business. His idea is to take a picture of this particular spot, have that enlarged to about 5x8 feet, and then use the enlargement as a background at any time during the year, of course seeing that the lighting of the figure corresponds. We have suggested that something of the kind may work out all right, but believe it would be best to either make the negative with one of the soft-focus lenses now on the market or else have some good background painter, one that understands the work, paint a background from a print showing the desired location. We have a recollection of having seen something of the kind some years ago and the scene used as a background was quite objectionable by reason of its hard and chalky effect. If one wishes to get some idea as to how such a print might look, let him study some picture of an interior in which another picture is shown on the walls.

Washing Roll Film

And this reminds me of a rather novel washer that an amateur friend is using for his roll film. It consists of a round block of wood from the center of which rises a standard about a foot high, ending in a ring at the top to serve as a handle. The block carries a number of wooden pegs so located that when wound about them the film takes the form of a spiral, looking much like a small section of a clock spring. This block, after the film has been wound thereon, is lowered into an ordinary tin can cut so that the film is just submerged, a length of rubber tubing from the faucet is inserted in the ring of the upright and allowed to reach down within the inner coil of the film, when the water is turned on. The water having no other course except over the top of the film, follows through all of the windings and thus assures rapid and complete washing. At least, he says it does. The film has to be held down, but this is accomplished by placing a couple of pieces of glass stirring rod across the windings.

Some Fogged Negatives

There is a commercial photographer in this town who has recently made a discovery that may be of some help to others who experience the same trouble. An excellent anastigmat lens that he uses quite frequently has, or did have, the very bad habit of producing foggy negatives. Finally it was observed that when this lens was used on a Folmer & Schwing sky-scraper camera it behaved quite nicely, and further, that when another otherwise well-behaved lens was put on the camera to which the anastigmat was generally attached, it also gave foggy negatives, although hardly so pronounced. Studying the matter out, our friend discovered that the trouble was no doubt due entirely to the fact that the camera had a bellows tapering quite sharply from the back to the front, and this caused considerable reflection from the excess of light passed by the anastigmat with its capacity for covering a larger circle than the outline of the plate required. The front of the camera was changed so that a much larger front board could be used and then a new bellows having but little taper was fitted. All trouble from fog was at once done away with. The suggestion is one that may help others who are troubled with an undetermined source of fog in their negatives made with an anastigmat lens and a camera having a bellows that tapers quite sharply from the back to the front.

Stripping Films

I do not like to recommend any particular method of stripping films from the glass support for the reason that much depends upon the particular brand of plates and the way in which they have been treated in developing, fixing and washing. However, I ran across a worker the other day who showed me a lot of negatives that had originally been in the form of glass plate ones, but are now thin films capable of being stored in a fractional amount of the space formerly occupied. He said they had been stripped, and stripped successfully, by first immersing in a solution made up as follows:

Potassium carbonate solution, 50 per cent..................	2 ounces
Glycerine	1 ounce
Formaldehyde (40 per cent formaline)	1 ounce
Water	50 ounces

After soaking in the above for at least a half hour, the plate is drained, wiped free from surface moisture and then slowly dried until perfectly free from any indication of moisture. The next thing is to float with a solution of gelatine in order to give the film the necessary body when stripped. This coating dry, a cut is made through the film about one-eighth of an inch from the edge all around, after which it may be peeled off very easily.

Developer For Under-Exposure

Such of our readers as are of an investigating turn of mind might care to try out a suggestion that a visitor made recently, namely, that he believed that a developer made up of one ounce of hydroquinone and about fifty grains of caustic soda dissolved in a pint of water would develop anything that could be brought out, doing it in about two or three minutes. He said that he had been working with another photographer for a week or two last summer and this man had made a practice of using a developer of about that composition for plates that he knew were badly undertimed. Furthermore, he certainly produced some surprising results from plates that were apparently hopelessly lacking in exposure. The image secured was often wanting in contrast, although remarkably free from fog, but the strong color, due to the absence of sulphite or other preservative, assured a printing quality that was quite satisfactory. There is a chance for some one to do some experimenting along this line. We believe Professor Mees recommended something of the kind some few years ago, but the index of our bound volumes of the British magazines fails to locate any reference to the matter.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Photography and the War

While industry the world over is suffering from the European horror, the burden of disturbance and paralysis has fallen with preponderant severity on all things photographic. Europe has no money to spend on photography. In Great Britain, where the commercial strain is very much less than on the Continent, the professional photographer finds his receipts reduced by half. What is happening in Germany, Austria, etc., we do not know, for no photographic exchanges are coming from these sources. The English journals arrive, but their advertising pages are reduced to less than half. With this loss of income goes an increase in the cost of production; lenses, glass, paper and chemicals have gradually become a German monopoly, and Germany is practically blockaded.

Hypo went up the first month of the war to fancy figures and some of the developers did likewise. This was, at that time, a bit of trade robbery; and without any addition to the available stock, many of these prices have fallen, probably to again rise as our stores become depleted. This is a matter needing our present care. There is no telling when the war will end and German chemicals be again available. Meanwhile we can economize in many ways; we can go back again to ferrous oxalate as a developer, and ultimately, it is to be hoped, obtain independence by manufacturing our own photographic necessities. I learn from the London papers that England is already making metol and hydroquinone.

But in the meanwhile the "Photographic Digest" has little to digest. With the exception of the London papers, all our European exchanges have failed to appear. Whether they are dead, suspended or held up by the censor, I know not; but all troubles carry some compensation. Not a few years have passed since I commenced to supply our readers with a monthly skim of the European journals. In the course of those years some of the cream has ripened into good cheese and much has become ruined and been thrown away. As I have the time and opportunity the non-arrival of the foreign journals furnish, I propose to commence next month to redigest the whole, selecting therefrom and republishing the things that are worth while, this month's offering taking the usual form.

On Backed Plates

I desire to draw attention to a point of the highest importance in photographic technics, but one which meets with scant notice in general, and when mentioned is passed by with an almost perfunctory reference. I refer to the use of backed plates. For the last thirty or forty years I have at intervals dealt with the subject, more particularly perhaps from an operative point of view, but what I now wish to do is to impress on my fellow workers the desirability of making the use of backed plates a virtually universal practice rather than, as is at present most frequently the case, one resorted to on occasion only.

The position I take is easily presented. When a photograph, say a paper print, is discussed, if its color is too warm or too cold, if it is unevenly toned, if it has rough or too smooth a surface, and so on, it is possible to lay a finger on the spot or show by easy comparison how one differs from another. With a backed plate, with the exception of a white space in proximity to a dark one, as, say, sky against dark trees, or in portraiture a collar or cuff against a dark dress, it is far from being so easy to show where its advantages come in, where its results excel those from an unbacked plate. Yet the effects are there, and a subject taken first with and then without this aid and under identical conditions will on close inspection reveal in most cases a higher technique on the backed negative. But the instances where the advantages are patent to all are so comparatively infrequent that it usually happens that the operator has "taken his chance" rather than be bothered with what usually is justly termed the "messiness." Let us take the case of a lady in a black velvet gown with lace trimmings; we see and deplore the effect of halation, etc., where the black is invaded by a rim of gray round the lace instead of an almost pure black, and similarly with a man's coat and his white collar; but what is rarely thought of is the fact that if the white invades the black and we can point out the spot, so also must it in the case of the features invade the half-tones and the beautiful pearly grays, and so degrade the whole scheme of shadows and half-shadows. But it is not possible to place the finger on the spot and say "Here is halation." It may be well here to incorporate the remark that though backing a plate will, if suitably done, prevent the halation from reflection, it will not remedy that due to internal scattering or irradation for which hitherto no efficient cure has been devised, although some years ago it was stated that staining the film with an adiactinic dye was efficient. Experiment proved it not to be so.

For a long time past in my own practice in the studio I have largely, almost entirely, indeed, used ready backed plates; and with the strongest emphasis I can lay I would advise their universal employment in the studio as well as outside, as it is found that if the slides are only charged with backed plates when it is anticipated the subject will require them, the trouble of changing is too frequently a bar, while if all plates in the dark room are backed every such emergency is provided for as a matter of course.

That much more importance is now attached to backing than used to be the case is at once seen by comparing the platemakers' lists of today with those of a few years ago. Few, if any, are without a price for backing. Formerly few, if any, had it. I am assuming all through that the photographer buys his plates ready backed, as convenience for doing them at home on a large scale are not common; and this raises the question which, under the existing condition of competitive prices, is of great importance, although the artist who respects himself and his work will not let that stand in the way when the quality of his work is in question. At the same time, I should like to say that if the use of backed plates becomes general, it is possible that the charges would be greatly reduced, for the price per dozen charged for half-plates for this work seems to me absurd, seeing that it would not need a clever operator to back half a gross in an hour, even without special conveniences at hand, as they would be at a plate manufactory. Before passing to the question of methods, I should like to add that at the present time, when white backgrounds are so much in request, the operator who, with such work in hand, only uses the plain plate does not know his business.

I have referred to manufacturers having added to their usual brands ready-backed plates; but at the same time I would point out that a great many of them are entirely behind the times in their methods in adhering to the old-fashioned plan of using for the purpose a pigment embedded in a suitable medium. Insoluble pigment backing is a remnant of the past. If it be wiped off before development the time involved is overwhelming. If time development is adopted and the plates placed in the solution without preliminary cleaning, a saving of time is effected at first, but the difficulty of getting entirely rid of the abominable powder is most aggravating. There are three alternative methods adopted; a soluble backing, a black or other suitable colored paper attached by a correctly devised adhesive, and, finally, a method which I originally devised and communicated to Mr. W. B. Bolton when editor-in-chief of the "B. J." It consists in placing a "backing," soluble in the after processes, as a substratum on the plate before applying the sensitive emulsion. This method is superior to any of the others, but, as far as I am aware, is only adopted by one British and one German firm.

With regard to the soluble backing, there is one on the market deserving of the highest praise. It is red in color; it is invisible in the dark room, and the progress of development can be watched as if there was no backing, and when the plate is developed and fixed the color has disappeared, there only remains behind a thin transparent film, which can be washed away with very little trouble. In fact, except for the "between backing," this holds the field for efficiency and time-saving.—G. WATMOUGH WEBSTER, F. C. S., in *British Journal of Photography.*

Green For Dark-Room Illumination

Charles L. Ford, writing in *Photography and Focus,* says: Those who find that red or orange light affects them unpleasantly—and with some it is said to bring on depression and headache—can substitute a deep green. This is much more restful to the eyes; but, on the other hand, it is not permissible to use as strong light with green as with red. It would be well before adopting green to make quite sure that it is the light of the dark-room and not its deficient ventilation which is the cause of the discomfort. So much attention is given to the exclusion of every ray of white light from the room, and so little, comparatively, to the admission of fresh air, that it is far more likely that any headache or similar symptoms are due to imperfect ventilation than to the red light. This is confirmed by the fact that those who have to work all day in the deep ruby light of a plate factory do not, as a general rule, experience any trouble from it at all.

The possibility of using green light for dark-room work is owing to the well-known fact that there is a comparative want of sensitiveness to such rays on the part of the emulsion, not so complete an insensitiveness as that of the non-orthochromatic plate to red, but still sufficiently marked to make a green illumination, if of a carefully selected shade, quite possible in the dark-room. This has long been recognized.

For ordinary—that is to say, for non-orthochromatic—plates, it will be found that a kind of glass known as "Cathedral green," backed up with a sheet of orange or canary medium, will give a very comfortable greenish working light, not at all fatiguing to the eyes. Much less must be used for orthochromatic and panchromatic plates; and for this purpose it will not do to rely upon commercial glass for the purpose, since it has not been designed for use in that way, and is uncertain in character. One of the safe lights specially made for photography must be used. An economical and perfectly satisfactory illumination for all purposes can be obtained by using the Virida papers supplied by T. K. Grant, of 89 Great Russell Street, London, W. C., for autochrome work. They are of two kinds, a green and a yellow; the latter should be put next the source of light. What number of thicknesses of these papers should be used must depend on the strength of the light, the area of the screen, and the purpose for which the light is required. One yellow and two green will be found an ample and safe illumination for all ordinary photographic work, with a window two square feet in area and an inverted incandescent gas burner. But before any light is used it should be tested.

The need for a careful test of the dark-room light is not as generally recognized as it should be. If the average photographer were asked why he should test his light, he would probably say that it was in order to know that it is "safe." Yet this is not quite the case. It cannot be too plainly pointed out that no light that is of any use is "safe" in the fullest sense of the term; that is to say, if a plate is exposed to it freely for two minutes, let us say, it should be fogged. If it is not, then it is an indication that less light is being used than need be.

The function of a test of the dark-room light is to see how much exposure the plate may be given with complete confidence that it will not be injuriously affected; and if it is found that this is several times as long as there is any need to have the plate unprotected, then instead of using an over-safe light—that is to say, one which is quite needlessly dark—it is policy to increase the illumination, so that we are better able to see what we are doing. Half or more than half of the difficulties experienced by the amateur photographer in his dark-room work are due to the attempt to carry it out in a light, or rather darkness, which allows nothing to be seen properly.

To test the light, the first thing to be done is to determine what is the greatest length of time that a plate ever need be exposed to it at all. The most extraordinary overestimates have been made of this. If the photographer the next time he develops a plate, will carefully count the seconds during which that plate is quite without protection, he will find that they do not amount to very much. Assuming that he holds it up to the light from time to time to see how development is progressing, that he uncovers the dish now and again to make quite sure that the solution is going all over its surface and that there are no air-bells on it, but that during the rest of the time the dish is kept covered with a card or lid of some kind, he will find that even with frequent and careful examination less than a minute all told will be ample; half a minute the writer finds to be more than he needs. Filling and emptying the slides may be ignored, as this can, and should, be done either in complete darkness or else in shadow, where no direct light from the lantern can reach the plates at all.

If it can be ascertained that a plate may be exposed for one minute to the light at the usual distance for examination, without anything more than the faintest perceptible trace of fog, then the light may be regarded as perfectly safe. Just the slightest trace ought to be visible, as, if not, we may feel fairly certain that the light is needlessly feeble, and it may be increased. If it is electric, a bulb of twice the candlepower may be substituted; if incandescent gas, then two burners instead of one should be used.

The test is best made by using a plate which has been exposed on some unimportant subject, and not with an unexposed plate, since this latter does not give a fair indication of the safety or otherwise of the light, the reason for which need not detain us at the moment. This exposed plate must receive an exposure of one minute to the dark-room light, part of it being protected, and the division between the protected and unprotected parts being sharply defined, so that any fog can be seen at once. It will not do to have anything in actual contact with the surface of the emulsion, as this might give a false indication, which would vitiate the test; but it must be as close as possible to the surface, in order to get a sharp line of demarcation. A stiff piece of blackened card, with two strips of thin card glued to its ends to keep it just off the surface of the plate, is the best thing to use; and if its edge is cut to an irregular line, or saw-toothed, its outline, if it is recorded on the plate at all, will be seen more easily. Holding this so that one-half the plate is covered with it, we expose the other half for a minute, where the plate ordinarily is exposed, and then develop the negative in the ordinary way, except that care should be taken to shield it as far as possible from the dark-room light. We do not want any other fog to interfere with the test. The negative is fixed and dried in the usual way, and a print taken. On the print just the slightest indication of the irregular edge of the card ought to be seen, but nothing more. If this is the case, then the light may be regarded as suitable for such work.

No one who takes the trouble to make such a test as has been described can fail to appreciate the results of it. The comfort of an ample illumination, together with the knowledge that there need be no fear of light fog if the plate is deliberately and carefully examined, are benefits which all who have experience of the contrary will value at their true worth.

Notes On The Bromoil Process

Doctor S. Brum do Canto, writing in the *British Journal of Photography,* says:

The systematic trials I have made of the many ways suggested up to now for working the Bromoil process lead me to the conclusion that a lot of time is lost by many workers because of the wrong formulae either for development of the bromide print or the inking up.

As regards development I have found that a developer neither too strong nor too weak is the best. The latter is even rather worse than the former, because, if development is continued for more than ninety seconds, the possibility of obtaining the necessary relief gradually disappears; and with development operated with very weak solutions of amidol or metol-hydroquinone for twenty minutes, I have found it quite impossible to obtain relief, even with the best papers for the Bromoil process, and using water at a temperature of 104 degrees F. The best way to obtain a good relief is to begin development with a weak developer, and, as soon as the image has made its complete appearance, to finish in a strong developer.

The best, or one of the best, developers for the bromide print intended for the Bromoil process being amidol, or diamidophenol chloride, I use the following formulae for weak and strong developer, respectively:

Soda sulphite (anhydrous)....	5 gms.
Amidol	1 gm.
Ten per cent. bromide solution.	1 c.c.
Water	800 c.c.s.
Soda sulphite (anhydrous)....	5 gms.
Amidol	1 gm.
Ten per cent. bromide solution	4 c.c.s.
Water	200 c.c.s.

When the image has completely appeared in the first developer I transfer it immediately to the second developer, where development is quickly finished.

The print is then quickly passed in a five per cent. solution of liquid soda bisulphite and transferred to the hypo.

I use with the best results a slightly acid fixing bath made in accordance with Professor R. Namias' formula, as follows:

50 per cent. hypo solution	500 c.c.s.
Saturated solution of boric acid	500 c.c.s.

After ten or fifteen minutes' fixing (a longer time causes no damage) prints are thoroughly washed in running water.

Here I must say that the best results as regards relief are obtained if prints, before going to the bleaching bath, have been soaked in water for not less than twelve hours in summer or twenty-four hours in winter. This long soaking makes the gelatine considerably swelled, and because of this the hardening action of the bleacher upon the black and half-tone parts of the image is more marked than with a short previous soaking. It will not then be found astonishing that my own trials proved that the bleaching between development and fixing does not lead to the best results as regards relief; the proof having been soaked during a few minutes only, the gelatine has not swelled enough.

As regards the bleaching bath, I have tried many formulae, but none gave me so good results as the following:

Copper sulphate	40 gms.
Potassium bromide	20 gms.
Potassium bichromate	1 gm.
Water to make	1,000 c.c.s.

This formula is a modification of that of Professor Namias. I found that to double the quantity of copper sulphate leads to better results.

This bleacher acts very quickly, and as soon as the print is bleached it must be taken off from the bath and washed in running water, or in several changes, during five or ten minutes. If the print is left for a long time in the bleacher the hardening power of the bath extends also to the white parts of the image, and relief is not obtained.

It is marvelous how this bath, with so small a proportion of bichromate, works well and quickly. If the print submitted to the bleaching action has been treated in accordance with the previous instructions, the relief is as good and strong immediately after bleaching as the one obtained only after the use of the hot water and sulphuric acid with other bleachers.

The fixing is obtained in a fifteen per cent. plain hypo solution, and after twenty minutes' washing in running water the print is ready to ink up immediately. The trouble of using hot water, acid baths, etc., is avoided, as is also that caused by the constant falling of hairs from the brushes.

A very practical way to remove the excess of water from the surface of the wet print has been pointed by the Viscount of Sacavem, and consists merely in passing over the gelatine a wet chamois leather, which quickly absorbs all the excess of water without affecting the gelatine in any way, even when pressure is applied. It also removes all dust from the print.

We now come to inking up, and I think that in this matter the only perfect, sure, and easy method is the one suggested by Professor R. Namias in an article published last year in his paper, *Il Progresso Fotografico*. A small portion of hard ink is carefully mixed with ten times its bulk of very fine and rectified turpentine. Charge immediately the brush with this mixture and dab it quickly upon the whole surface of the print, which will become covered with a fine coating of ink. Continue the dabbing action of the brush. Gradually from the nebulous print the high-lights appear, the shadows intensify, and detail grows. It follows that, with the gradual evaporation of turpentine both on the print and on the brush, the ink becomes thicker and goes on from the print to the brush in the high-lights, and from the brush to the print in the shadows. After a short time of dabbing the whole image is very clear. Only the lightest tones do not resist this first treatment, but never mind them and continue the dabbing until obtaining detail in the shadows.

This first part of the inking being complete, take three parts of hard and two parts of soft ink, and dissolve the mixture with some four or five times its bulk of the following medium.

Rectified turpentine	1 part.
Benzine	2 parts.

This medium is the one recommended by Professor R. Namias, but I prefer to replace the benzine in the formula by ether of petrol.

This second ink is intended for the lighter tones, and will be worked up quite in the same way as the former, the sole difference being that it must not be used so fluid, in order not to affect the effect of the former inking.

Where any lack of intensity is found, supplementary inking with this second ink will be made, the excess of ink being removed by continuous dabbing. It is marvellous how quickly a Bromoil print is made in this way.

If the worker is not satisfied with the resulting print all the pigment can be instantly removed with a fine cloth and benzine, the print soaked in water for five or ten minutes, and is ready to ink up once more.

Professor R. Namias insists upon the use of very fine and rectified turpentine, saying that ordinary turpentine usually contains greasy matters, which make it inconvenient for the process, and recommends only distilled and very volatile turpentine. By my own experience I would say that this point is of the highest importance, and that, even when using distilled turpentine, great care must be taken in well corking the bottle, because evaporation of the most volatile parts gradually increases the density of the remaining portion, which becomes quite unsuitable for the process.

An important point is to work quickly, and to obtain the best results cover the surface of the proof, in the beginning of the first inking, with the proper quantity of ink. Too much ink will lead to hard, too little to soft results. I have no way of explaining better what is the proper quantity of ink, but this is a matter which will be quickly learned by practice after the first trials.

For the first inking by this method the largest putois pied-de-biche brushes are the most convenient. I use for the purpose a No. 30 brush from L. Bullier fils, of Paris.

The worker who will try Bromoil in the way suggested above will find it a quite easy and delightful process.

Methods of Making Developing Substances

In reference to the shortage of developing substances consequent upon the cessation of supplies of fine chemicals from Germany, our contemporary, the *Chemist and Druggist*, of London, publishes the following notes on the methods of preparing the developing substances on the manufacturing scale:

Pyrogallic acid, or pyrogallol, is always prepared from gallic acid. On the commercial scale, gallic acid is heated with two to three times its weight of water in a bronze digester at two hundred to two hundred and ten degrees Centigrade for about half an hour, a paper ring being placed between the vessel and its cover to allow the carbon dioxide to escape. The resulting solution of pyrogallol is boiled with animal charcoal, filtered and concentrated. The pyrogallol, which crystallizes out on cooling, is finally distilled under a pressure of twenty to thirty millimeters in order to obtain it perfectly white.

Hydroquinone, or quinol. — Aniline (one part) is dissolved in sulphuric acid (eight parts) and water (thirty parts), and a solution of sodium bichromate (two and one-half parts) gradually added to the cooled (five to ten degrees) solution. Potassium sulphite is added to the brown liquid thus obtained, and the whole extracted with ether. The ether is then distilled off, the residue dissolved in the smallest possible quantity of hot water, sulphurous acid and animal charcoal added, and the solution boiled and filtered. On standing, the quinol separates out from the filtrate.

Adurol is a haloid substitution-product of quinol, the monochlor-compound being made by passing chlorine through quinol dissolved in benzol. The bromo-derivative is obtained by adding a solution of bromine in benzol to a solution of quinol in the same solvent, evaporating the benzol, and crystallizing from ligroin.

Pyrocatechin, or catechol, is obtained from beechwood-tar creosote, or by fusing phenol-*o*-sulphonic acid with twenty-four molecular proportions of caustic potash at three hundred and twenty to three hundred and thirty degrees Centigrade.

Eikonogen is the sodium salt of amido-*B*-naphthol-*B*-monosulphonic acid, the discovery of which was made in 1880 by Professor R. Meldola. It is prepared from Schaeffer's acid, obtained as a by-product in the aniline-dye industry.

Imogen is eikonogen modified by the introduction of another amido group.

Diogen is also a naphthalene compound—sodium amidonaphthol-disulphonate.

Para-amidophenol is photographically of great importance. The following are two methods by which it is prepared: First: *p*-Nitrophenol (twenty-five kilograms) is added to hydrochloric acid (one hundred and eighty kilograms) at twenty degrees Baume, and tin (seventy-five kilograms) contained in an earthenware vessel, the temperature rising to one hundred to one hundred and six degrees. Concentrated sulphuric acid (two hundred kilograms) is next added in a fine stream. After standing for three days, the *p*-amidophenol sulphate which has separated is filtered off, drained, dissolved in cold water (two hundred litres), and decomposed with soda, sodium bisulphite (one kilogram) being added to the solution to protect the precipitated base from oxidation. The precipitate is filter-pressed and dissolved in boiling water (two hundred to three hundred litres) along with sodium bisulphite (ten kilograms), the filtered solution on cooling depositing the base in colorless needles. Second: *p*-Nitrophenol (two hundred and fifty grams), hydrochloric acid twenty degrees Baume (forty-five grams), and water (five hundred cubic centimeters) are heated to ninety-eight degrees Centigrade in an iron vessel provided with an agitator, and iron borings (about four hundred grams) added gradually (fifteen to twenty grams at a time) so long as a vigorous reaction takes place. The whole is then boiled for half an hour, and extracted with water (about two litres) and sodium carbonate (twenty-five to thirty grams). The filtered solution deposits *p*-amidophenol on cooling, and the mother-liquor is used for the next extraction, which is continued so long as *p*-amidophenol crystallizes out on cooling.

Rodinal is the hydrochloride of *p*-amidophenol in concentrated solution.

Ortol is methyl-ortho-amidophenol combined with hydroquinone. The starting-point in the manufacture of *o*-amidophenol is *o*-nitrophenol, the ammonium salt being reduced by passing hydrogen sulphide into the solution slowly heated to forty degrees Centigrade.

Metol, or methyl-*p*-amidophenol sulphate, is obtained by methylating *p*-amidophenol by an indirect method, such as the following: Two molecules of *p*-amidophenol and one molecule of chloracetic acid in aqueous solution are boiled for about an hour. On cooling, *p*-hydroxyglycine crystallizes out, which, on melting at two hundred and forty-five to two hundred and forty-seven degrees.—*British Journal of Photography.*

Covering Power and Illumination

We find from the letters of some of our correspondents that there is a good deal of misapprehension as to the meaning of these two terms as applied to photographic lenses. It is often remarked that a certain lens will not cover the plate when the front is raised a little, yet prints enclosed to demonstrate this generally show that the plate is covered, but that the illumination is uneven. By covering power is meant the ability of the lens to give an image of good definition over the whole of the plate, and with modern lenses it is always understood that a reasonable degree of rising front is to be allowed for. But no lens of moderate view angle will give equal illumination all over the plate—whether the front be raised or not—at such an aperture as f-6 or f-8. The corners of the plate will probably receive only a quarter to a half of the light which reaches the center, taking, of course, small patches of equal area. This may be readily tested by setting the camera up in front of a large window and focusing the window itself, with the lens raised, say, a quarter or a third of the length of the plate. Then, removing the ground-plan screen, place the eye opposite the lens and note that the aperture through which light enters appears circular, the round opening of the stop, in fact. But when the eye is placed at the bottom corner of the reversing back, the aperture is no longer circular, but is lozenge-shaped, and often so narrow a lozenge that it is almost an almond-shaped slit. No further demonstration is needed to show why the corners of the plate are unequally illuminated as compared with that portion opposite the lens. If, however, a small stop, say, f-22 or f-32, is used, the difference between the apertures seen from the two positions is much less. Hence the use of a small stop tends greatly to equalize illumination. Stopping down will not appreciably increase the covering power of a lens, though with older types of lens it will improve the definition on the margins of the field.—*British Journal of Photography.*

Transmission of Ultra-Violet Rays By Glass

Three American workers, W. R. Hain, P. B. Fehr, and R. E. Bitner, in a paper before the Franklin Institute of Philadelphia, have described a photographic method devised by them for the measurement of the absorption of ultra-violet rays by glass.

On account of the many variables, such as temperature, time exposure and development, uniformity of emulsion, handling of the plate during development, etc., all of which enter into photography to a greater or less degree, it was at once decided to employ a null method. The intention was to interpose the absorbing medium in a beam of light of constant intensity and expose a photographic plate for a given length of time. The medium was then to be removed and the intensity reduced by a known amount. Immediately another exposure was to be made for the same length of time on the adjacent portion of the plate. Since these exposures could usually be made within two minutes there would hardly be any change of conditions during the process of obtaining the spectrograms, and since the exposures were to be made on the same plate, practically no errors would be introduced due to the emulsion and the development.

By making several exposures as above with various reduced intensities of the incident beam, a very close watch could be obtained between two adjacent images of the same spectral line, and a fairly close estimate of the absorption obtained for that particular wave length. For example, if the effect produced by the original beam of light after passing through the medium were the same as the effect produced by the beam when striking the plate after a reduction of 30 per cent. in intensity, the absorption of the medium would be 30 per cent. for that particular wave length.

Dressing For Table Tops

The following dressing insures a coating on laboratory and prescription bench tops which is not affected by liquid spilled on it, and remains as good after many years' service as when first applied. It may be applied to new or old finished surfaces, provided that in the latter case the wood is freed from the old varnish. The wood is first thoroughly cleaned with soap and water, and allowed to dry. A saturated solution of potassium chlorate is boiled and applied to the wood while hot, in order to penetrate the fiber. When dry, another coat is given and allowed to dry. A twenty per cent boiling solution of copper sulphate is then applied, allowing the wood to become well saturated with it and removing any surplus liquid remaining after ten to fifteen minutes, so that no appreciable crystallization takes place on the surface of the wood. When this is dry, there is applied a solution made by dissolving ninety parts by volume of aniline oil in sixty parts by volume of hydrochloric acid, diluted to five hundred parts with water; allow it to penetrate thoroughly. This coat is left to dry overnight, and a heavy coat of hot, raw linseed oil given. After six hours the surface is scrubbed well with soap and water until all surplus color has been removed; that is, until the washwater is uncolored; when dry it is rubbed well with linseed oil, applying several coats (a day or two apart) if necessary, to fill the pores of the wood completely. The finish is a deep black with a slight gloss, which can be kept in perfect condition by an occasional scrubbing with soap and water and a subsequent rub-down with linseed oil.—*Journal American Pharmaceutical Society.*

The Oldest Lens

The oldest known lens in the world is one which was found by Professor Flinders Petrie in the Fayoum, Egypt, and consists of a somewhat yellowish glass about half an inch thick and a little over two inches in diameter. It is of plano-convex form, and, although much injured by time, is still capable of forming an image.

The use to which such a lens was put seems doubtful. It may have been employed in the arts as a magnifying glass, or perhaps as a condenser to concentrate the light of a lamp upon the work in hand. There is now no means of ascertaining its purpose, and any mount it may ever have had has long since perished. Still that it is a lens, deliberately made for one of the uses of such instruments, carefully ground to shape on a wheel or lathe, there can be no doubt.

From the circumstances amidst which it was found, it is presumed to date from the second or third century A. D.—*Photography.*

Notes From The Illinois College of Photography

The college basketball team has been in training for some time and will play the first game of its schedule the first week in November. The girls assisted in financing the team by holding a basket social where partners with basket lunches were auctioned off to the affluent young men.

Among the students enrolling at the college last month was a young Chinese, Ho Chung Ming, who is taking the course in three-color work. Mr. Ho is one of the "official students" of the Chinese government, having been sent to this country to fit himself for educational work in his native land. He will be expected to enter the government service on his return home.

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Class 2.

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2095—Gustav G. Stortz, 2424 Germantown Ave., Philadelphia, Pa.
3¼x5½, post cards, developing paper, of mis-

cellaneous subjects; for the same. No portraits, athletic, swimming, or camping views desired. Class 1.

2274—E. J. Towne, South Dayton, N. Y.
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2988—H. M. Suter, 3005 W. North Ave., Baltimore, Md.
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3138—A. E. Davies, 2954 Linden Ave., Berkeley, Cal.
Up to 8x10 and lantern slides, various papers, of California scenes and speed subjects; for snow scenes. Prints and lantern slides. Class 1.

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(Was Kamas, Utah.)

3462—Ed Olson, Box 557, Laurel, Mont.
(Was Box 316.)

3568—George W. Teasdale, Mojave, Cal.
(Was Los Angeles, Cal.)

3750—E. W. Cunningham, care Ga. Tech., Atlanta, Ga.
(Was Charlotte, N. C.)

3877—C. E. H. Paul, Lock Box 185, Tenino, Wash.
(Was Rochester, Wash.)

3881—A. C. Gocher, 214 Longnecker, Buffalo, N. Y.
(Was 184 Sherman St.)

3894—John F. Carrigan, Box 194, Effingham, Ill.
(Was Clifton, Ariz.)

OUR BOOK SHELVES

"The Wellcome Photographic Record and Diary, 1915"

Each year there is more and more evidence that the brains concerned in the production of this book are intensely practical ones. We hazard the guess that it is the work of experts who can remember the time when they needed information themselves and could find it only with great difficulty. Our reason for this guess is that the "Wellcome" Photographic Exposure Record and Diary gives not only the obvious information, as to exposure, development, etc., which every photographer needs, but also supplies answers to just those questions which are frequently asked by amateurs, but frequently left unanswered in the ordinary text-books.

If you want to know: How to tone bromides green, how much flashlight powder to use, how to intensify color plates, how to get warm tones on gaslight paper, about factorial development, about photography at night, about speeds of bromide papers, about exposure for interiors, about sepia or blue toning, about staining prints or about the hundred and one other things connected with photography, refer to the above photographic guide. It is a veritable encyclopedia of photography, condensing as it does, into one pocket-size volume, clear, simple directions for every process; information, general and particular, figures, tables, factors for all purposes and pages for exposure-record diary and memoranda. Here all the wrinkles and dodges—"tricks of the trade"—which have been culled by experiments and long experience are analyzed and set forth in simple formulæ and precise directions which not only help the beginner, saving him much time, trouble and material, but also serve as a useful reminder to the expert photographer. Independent exposure factors are given for all British and American plates and films. Fixed inside the back cover is the "Wellcome" Exposure Calculator, the ingenious device which, by one turn of one scale gives the correct exposure for any plate or film at any time of day or year. By its use the percentage of spoiled plates is immediately reduced; it enables the beginner to "hit the mark every time," thus considerably lessening the unnecessary expense often incurred when taking up photography. Plenty of room is left in the specially ruled pages for particulars of exposure, stop, light, time of day, etc., also memoranda pages for additional notes. The book is issued in wallet form complete with lead pencil.

Three editions of the "Wellcome" Photographic Exposure Record and Diary are published, one for the Southern Hemisphere, one for the Northern Hemisphere and the third, a special edition, for the United States of America.

The "Wellcome" Exposure Record may be obtained from all photographic dealers and booksellers. Price in the United States, fifty cents.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Some Fine Autochromes

During the two weeks, October twelfth to twenty-sixth last, Miss Helen Messinger Murdoch, of Boston, had about two hundred autochromes on exhibition in the rooms of the California Camera Club. This rare collection Miss Murdoch secured while traveling through India, Japan and other countries of the Orient, and we can only describe them as being especially artistic, attractive and interesting. The numerous exclamations of delight expressed by the many daily visitors at this exhibit must have been a source of much pleasure to Miss Murdoch, whose work we hope to have many opportunities of enjoying in the future.

Those Autographed Pictures

The Autographic Kodak is still the sensation of the photographic world. The ability to date and title negatives at the time they are made greatly increases the value of the picture to the Kodaker. Interesting data surrounds the making of every picture, and it is a fact to be deplored that formerly much of this data was forgotten. The Autographic Kodak ends all this because the record on the negative furnishes permanent and positive identification as to when, where and under what conditions each picture was taken. The Eastman Kodak Company say that the Autographic Kodak is the biggest photographic advance in twenty years—a claim that can hardly be denied. Stroll down to your dealer's today and have him explain the simple workings of the Autographic Kodak to you.

Making Movies For Uncle Sam

H. T. Cowling, Official Photographer, U. S. Reclamation Service, has recently returned from a seventeen thousand mile trip through the West, securing motion-picture film for the Government exhibit at the Panama-Pacific Exposition.

In addition to securing pictures showing the results attained by the Government in reclaiming the arid sections, Mr. Cowling spent considerable time on the Indian reservations, picturing the life of the American Indians of today. He also secured pictures of the ancient cliff dwellings, and several of our national playgrounds, taking thousands of feet of motion-picture film, which will be used after the Exposition to attract homeseekers and to awaken an interest in the beauties of our own country.

Probably the most interesting feature of Mr. Cowling's summer work was the "Romance of Irrigation," staged on one of the Government projects, showing all the steps taken in securing and developing a farm on an irrigation project. The film takes one from the time the tired school teacher reads the Government advertisement, ~~writes to~~ Washington, goes to the desert country, puts up her shack, learns the method of irrigating, falls in love with a neighboring bachelor, and goes in partnership with him for life. Mr. Cowling is now in the Washington laboratory finishing and assembling this material for the Exposition and other lectures.

That Holiday Picture

It frequently happens that the owner of a camera awakens to the fact at the eleventh hour that he should employ his skill in making a picture of the home gathering at the holiday season. If he will go to his nearest dealer, he will be almost sure to find that the well-known Actino flash cartridges are carried in stock, and as they cost but twenty-five to fifty cents per box of six, there is no reason why the picture should not be made. While the cartridge holder, costing another fifty cents, is a convenience, it is not absolutely necessary, and as the cartridges are graduated in size to illuminate fully rooms of different sizes, and this, together with other necessary information, is given on the label of the container, no anxiety should be felt as to the success of such a picture if the worker has the ordinary skill required to focus the camera and develop the negative. These cartridges are manufactured by James H. Smith & Sons Company, 3541 Cottage Grove Avenue, Chicago, who will be pleased to send free upon request a copy of their full and complete illustrated booklet, entitled "Flashlight Photography," should the dealer not have copies on hand.

The Pittsburg Salon

The Second Annual Pittsburg Salon of National Photographic Art will be presented by the Photographic Section of the Academy of Science and Art, in Galleries L and M of the Carnegie Institute, Pittsburg, Pennsylvania, March first to thirty-first, 1915. Pictorial workers should make it a point to submit examples of their work, addressing communications to Charles E. Beeson, Secretary, nineteenth floor, Frick Building, Pittsburg, Pennsylvania.

High-Speed Work Made Easy

We would call the attention of our readers to the new advertisement of the Pocket Speed Shutter appearing in the front advertising section. We can hardly do more than quote from the announcement made therein, and that is not necessary if the reader will but turn thereto. Every reader interested in increasing the capacity of his camera should investigate the shutter, and we assure them that they will find the booklet most interesting. Copies can be secured free by addressing, Pocket Speed Shutter Company, 97-101 Reede Street, New York, N. Y.

Game Resources Vividly Portrayed

Nearly two years time and thirty thousand dollars in money have been spent in assembling some very remarkable moving pictures depicting the wild life of the West. Most of the pictures were taken in California and were procured by Edward Salisbury, director of the Educational Film Company of Los Angeles. Mr. Salisbury spent months living with the birds and animals in order to gain their confidence. The camera was carefully muffled and blinds were built in which the operators stationed themselves. The pictures are therefore true to life and are a welcome relief after the "fake" pictures so often seen.

So great is the educational value of these pictures that the California Fish and Game Commission and the California Associated Societies for the Conservation of Wild Life are helping to make them available to everyone. The pictures are being shown in all of the larger cities of the state and the above organizations are sending out lecturers to fully explain them.

Saving Weak Negatives

Every photographer occasionally obtains a negative that is either a little too weak to make a good print, or perhaps so entirely lacking in quality as to be practically unprintable. Such negatives should not be discarded or thrown away, as they can, in nearly all cases, be made into good printers by the simple process of submitting them to the convenient Victor Intensifier, made by James H. Smith & Sons Company, 3541 Cottage Grove Avenue, Chicago, and on sale by practically every dealer in this country. It is a simple one-solution intensifier that is powerful in action and most satisfactory in results, as with it one can obtain any degree of density that seems desirable. It can be applied locally with a tuft of cotton, and this quality makes it particularly effective in the treatment of negatives having uneven density, such as results from faulty illumination in the case of interiors and the like.

An Interesting New Catalogue

We have just received a copy of a handsomely printed little catalogue that is distinctly different from those usually put out by firms dealing in photographic apparatus and supplies. A major portion of its pages are devoted to illustrations and descriptive matter covering an excellent and varied line of projecting apparatus, while photo-micrographic, copying, lantern slides, laboratory, motion picture, graflex, view, and even home portraits, cameras and outfits are included. All in all, the catalogue is a particularly interesting one, and we would advise our readers to apply for a copy to Herbert & Huesgen Company, 311 Madison Avenue, New York, as they will gladly send it to any of our readers upon request.

4x5 Lens Makes 11x14 Negatives

The Turner-Reich Convertible Anastigmat Lens, f-6.8, claimed by its makers to be the most versatile anastigmat on the market, possesses some wonderful capabilities which will astonish those who are as yet unfamiliar with it. It is the only American-made convertible anastigmat on the market today, its single combinations and unequal focal length being perfectly corrected for use separately.

The Series II, No. 1, listed for 4x5 plates, covers a 5x7 plate perfectly at the open aperture of f-6.8. In this capacity it can very well be used as a wide-angle lens on 5x7 cameras, its focal length being but six and one-fourth inches. The back combination alone, working at an aperture of f-12 and having a focal length of eleven inches, covers an 8x10 plate perfectly at the largest stop, and an 11x14 at f-16. The possibility of using singly the separate combinations of a high-class anastigmat lens thus saves the necessity of purchasing several lenses of various focal lengths, and also of unsatisfactory wide-angle lenses.

Make this test with the anastigmat that you are now using and see how its capabilities compare with these. Then write to the Gundlach-Manhattan Optical Company, of 766 Clinton Avenue South, Rochester, New York, for their complete catalogue of lenses and cameras and for full particulars of the wonderful capabilities of the Turner-Reich Anastigmat. Also ask them for their free handbook on telephotography—another interesting branch.

A New Paper, A Liberal Offer

Attention is called to the new, full-page advertisement of Rexo paper in this issue. This new paper is put out by the well-known firm of Burke & James, Chicago, and they show their confidence in its ability to please by making the liberal offer they do, namely, to send a sample package absolutely free upon receipt of the coupon, filled out, that makes a part of the advertisement. We ourselves gave one of these sample packages a very careful trial on some obstinate negatives a few weeks ago and were highly pleased with the range of tone and fine gradation secured. Contrary to our expectations, we had no difficulty in right timing of the prints for the simple reason that the paper seems to have latitude in a most desirable degree, particularly the normal grade, which was the kind used first in order to estimate the time of exposure. We found that using the three grades from which to make a selection, practically any kind of a negative could be made to afford a good print. Look up the advertisement and send in the coupon before they withdraw this liberal offer.

"Royle Routing Cutters"

This is the title of an instructive and informative little fifty-page booklet that cannot fail to achieve its publishers' object as set forth in the "foreword" as follows: "We endeavor to furnish in this book complete information for the purchase of Royle Routing Cutters, to distinguish between the different styles offered, and to impart helpful suggestions regarding their care and use." The booklet is one that should be in the hands of every photoengraver in the land, and judging from the popularity of the Royle line, it no doubt has already found its way to a large majority of such workers. Copies of this booklet will be gladly sent to any photoengraver upon request made to John Royle & Sons, Paterson, New Jersey.

Photography By Car Load

The Illinois College of Photography of this city has just received a shipment of a car load of books on photography. This immense collection was purchased from an Eastern publishing concern. The consignment aggregates a total of over three thousand large volumes, bound in cloth and leather. At the original retail price these books would represent a cost of over $8,000. They cover the subject of photography from beginning to end in every phase of its many modern developments. Very few people outside of the photographic business realize the wide-spread application of the principles of photography in the modern scientific and commercial world. As a rule they are familiar with only one or two of its most ordinary uses. An inspection of this stupendous pile of literature on the subject would be a revelation to them. —*Effingham* (Illinois) *Record.*

Illinois College of Photography Notes

Students Record of 1913, Fuller of 1914, and Hassler of 1913 have returned to finish their courses.

Mr. Weed, of the Smith-Butterfield Photo Supply Company, and Mr. Hood, of the A. M. Collins Manufacturing Company, made professional calls at the college last month.

Mr. Bissell has donated four beautiful silver cups as trophies for the students during the coming year. One of the cups will be awarded for the best portrait photograph made at the College Camera Club for the quarter; one cup for the best display of graduation work during the year, and one cup for the best specimen of air-brush work made during a like period. There is also a Grand Trophy cup for the best portrait made at the college during the year.

CAMERA WANTS

Advertisements of the above nature shown below will be inserted under this heading at the rate of fifty cents each insertion, for twenty-five words or less; each additional word, two cents extra, cash with order. Those of positions wanted inserted free. No business advertisements accepted.

RETOUCHING WANTED At home; prompt attention given orders prices; seven years' retouching for Arnold received from city or country; moderate Genthe. Mrs. Anna Josselyn, phone Franklin 7799, 1400 Washington Street, San Francisco, Cal.

10x12 GUNDLACH Rectigraph lens, newly fitted with Iris diaphragm; list $60.00; will sell for $25.00. N. C. H., care "Camera Craft," San Francisco, Cal.

FOR SALE 8x10 Cycle pattern camera with No. 12, V11A convertible lens in Volute shutter, case and 6 holders. 5x7 Pony Premo camera No. 7, French lens in Volute shutter, case and 6 holders. B. & L. extreme wide angle lens, series V in Volute shutter in velvet case. Pair 8-inch condensers with front and bellows, with attachment for holding above condensers, 2 film pack tanks, Nos. 2 and 3, 3 developing machines, Brownie Nos. 1 and 2. One type H Cooper-Hewitt lamp. Any reasonable offer accepted. C. A. Krebaum, La Crosse, Wis.

FOR SALE Kodak finishing and enlarging plant with commercial work, conveniently fitted up, ground floor, good location, cheap rent; for quick sale, $300. Write R. G. S., care "Camera Craft," San Francisco, Cal.

SALESMAN Wanted To manage exhibit of high-grade photographic and motion picture apparatus at Panama-Pacific Exposition; ten months' opportunity for right man to make good on commission basis. P. P. C., care "Camera Craft," San Francisco, Cal.

FOR RENT Elegant vacant photo studio on fine business street in Minneapolis; all modern improvements; well located; rent reasonable to right party. For full particulars, address A. Backdahl & Co., 313 Washington Ave. So., Minneapolis, Minn.

FOR SALE Two photo studios in Northwestern Iowa; population each 1,200; both fully equipped to 8x10 and 11x14; fine territory; big snap. You get Christmas trade. $300 each if taken before Nov. 1st. Box 370, Nora Springs, Iowa.

FOR SALE Studio outfit up to 8x10; everything necessary for taking first-class pictures. Invoices at $525. Will take $350 cash. Am compelled to sell out on account of failing eyesight and demand of time for other business. Address C. E. Skog, Clearbrook, Minn.

FOR SALE On account of throat trouble am compelled to get outside work. My studio is for sale at a very low price. Am situated in the best business section and have best skylight in city. Address E. O. Hindsley, Valley City, N. D.

FOR SALE Studio in Northern Iowa, county seat, population 2,700. Big territory to draw from. This is not a run-down place, but is growing all the time. My reason for selling is that I have interests in the West and am retiring from the photographic business. Full particulars if you are interested. Price, $800. Holiday trade should be around $400. Possession given at once. Address C. B. A., care "Camera Craft," San Francisco, Cal.

WANTED TO BUY Studio in town of two to three thousand; only good location at reasonable price will be considered. Address M. Katzin, 511 Colfax Ave. No., Minneapolis, Minn.

ATTENTION PHOTOGRAPHERS A modern flat, especially built for photographer, to rent at 427 Presidio Ave., San Francisco; studio is large and best lighted in city; worth looking at; owner will fix to suit. See agent or phone Fillmore 1837. Jesse Miller, 507 Mission St., San Francisco, Cal.

WANTED TO BUY First-class, ground-floor main street studio in good town of from two to ten thousand population. Would prefer a studio with Kodak agency. Address H. O. B., care "Camera Craft," San Francisco, Cal.

WANTED Place to rent up-to-date studio, or will conduct one on shares. Good work, and would consider position. Address M., care "Camera Craft," San Francisco, Cal.

PHOTOGRAPHERS! Here is a snap: In town of 1,400; railroad center; good farming community; only studio; nearest competition 15 miles. Fully equipped except lens; three rooms, workroom, reception room and splendid skylight room; north light. Rent $10. Christmas business will more than pay price asked. $150 cash takes it. Address, Room 408, 27 East Seventh St., St. Paul, Minn.

WANTED Every photographer to use our new Silverine Frames, which will help them make more money. Address Northern Photo Supply Co., Minneapolis, Minn.

FOR SALE One 5x7 view camera, anastigmat lens, automatic shutter and complete accessories for photo work. All in first-class condition, for $50.00. J. L. Kidd, Mogollon, N. M.

BARGAIN PRICE On following almost new goods: Crown tripod No. 2, $2.50; T. S. Bruce retouching desk, $8.50; No. 1 Velox amateur printing machine, $1.25; Ingento Auto print washer, 4x5, 75 cents; Composition in portraiture, $1.50. Send postal for other photo books and outfits. J. H., Box 1425, Spokane, Wash.

FOR SALE 3A Graflex camera with heavy leather case, late model, without lens; guaranteed first-class condition. Cost $84.00; will take $40.00. R. M. Woolpert, Alhambra, Cal.

FOR SALE Central studio, Los Angeles; best location in the city, corner 5th and Broadway. Good lease, low rent, established 10 years. Will sell at a bargain. Write quickly for particulars to F. W. Eberspacher, proprietor, 452½ So. Broadway, Los Angeles, Cal.

WANTED Ingento, Graflex, Popular Pressman, Lancaster's Plano, Reflex or similar 3¼x4¼ reflecting camera with reversible or revolving back. Also desire Ingento stereoscopic attachment and 4¾-inch Collinear anastigmat f-5.4. Photo Crafts Den, Marshalltown, Iowa.

NEW No. 1 Multispeed shutter, $17.50; new 5x12 Korona view camera and 6 holders, $34.00; Cooke lens, 7½-inch, f-4.5, in Compound shutter, A1 condition, $41.25. Photo Crafts Den, Marshalltown, Iowa.

FOR SALE 6½x4¾ Cooke anastigmat, f-6.5, 7.7-inch focus, as new $30.00, or with 4x5 reflex camera, slides and case, $45.00. Dance, 986 Ellis St., San Francisco, Cal.

FOR SALE Well-located, good-paying studio in Oakland, Cal. Owner has other interests demanding his time. Will sell very cheap for cash or will take good paper for part. Address Oakland, care "Camera Craft," San Francisco, Cal.